THE OLD TIMER'S BULLETIN

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Published for the Old Time Wireless Operator, Historian and Collector

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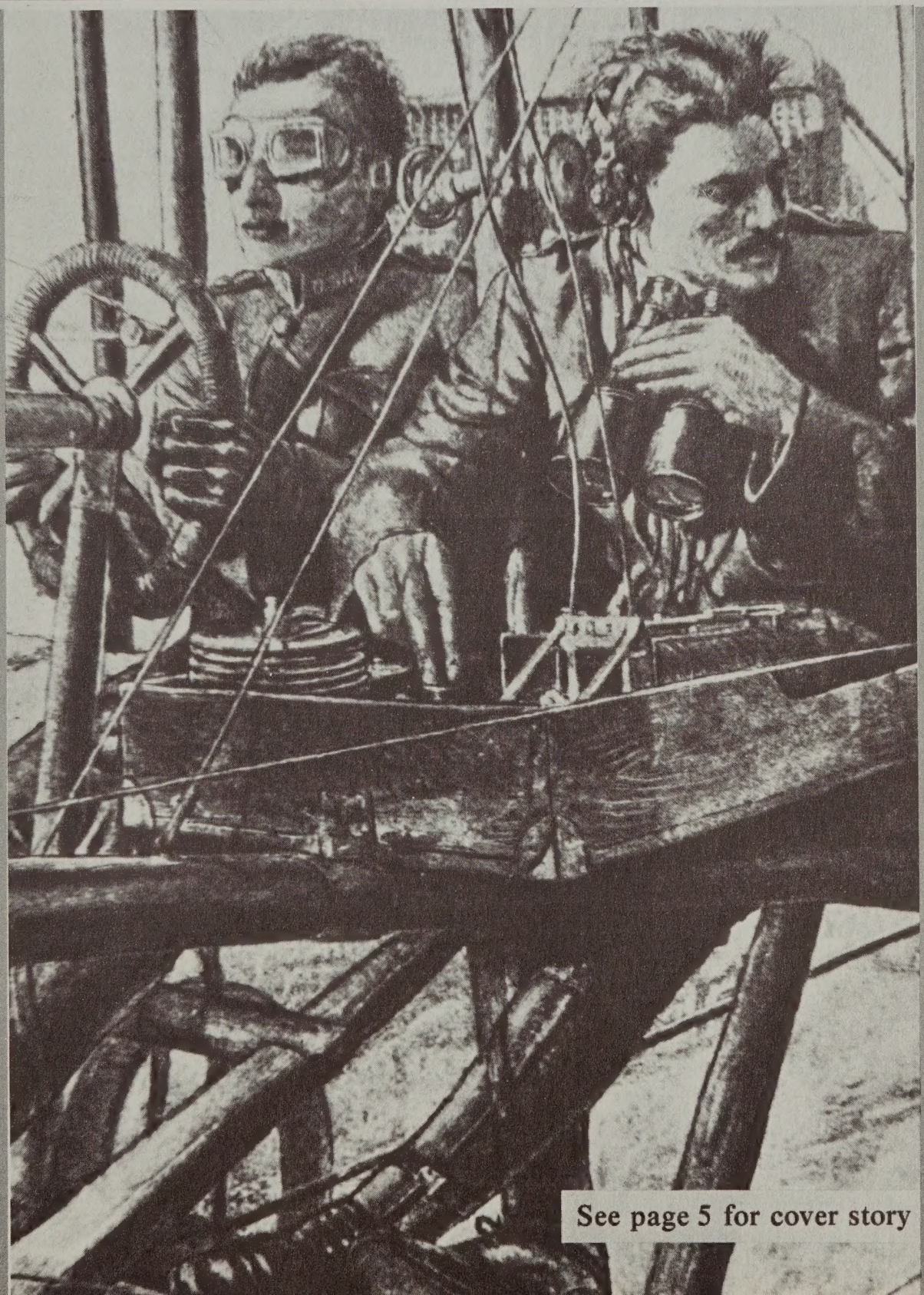

See page 5 for cover story

Devoted to research and documentation of the history of wireless communications.

Member:
American Association of Museums
Regional Conference of Historical Agencies

ANTIQUE WIRELESS ASSOCIATION, INC.

HOLCOMB, NEW YORK 14469

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"The Old Timers Bulletin"

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Meeting notices, business reports, membership applications.

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All dues, address changes, membership applications (Tel. 716-663-0856)

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All material for AWA Bulletin. Museum activity.

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Museum activity and maintenance.

Dexter Deeley, 8 Briar Circle, Rochester, N.Y. 14618
Bulletin mailing and back issues.

Bruce Roloson, Old Bath Rd., Penn Yan, N.Y. 14527
Electrical equipment and light bulb development. Museum Planning Chairman.

Robert Morris, Sunset Lake Rd., RFD #1, Sparta, N.J. 07871
Houck Award Chairman and associated activities.

Kenneth Gardner, 42 Oakdale Ave. So., New Hartford, N.Y. 13413
All business relative to amateur radio activities. Net Lists and Contests.

Change In Address?

Mail information to the Treasurer who handles current mailing list. (NOT the Secretary)

L.A. CUNDALL, W2LC
69 BOULEVARD PKWY
ROCHESTER, N.Y. 14612

AWA NETS [EST/ESDT]

PHONE (SSB)--3866 kc. Tuesday 8 PM
Mon. - Wed. - Fri. at 9:30 AM
Sunday -- 7242 kc. 12 Noon
Tuesday-- 14270 kc. at 5:30 PM

CW -- 3584 kc. daily at 4 PM
First Wed. each month at 8 PM

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What's Coming Next!

in the "Old Timer's Bulletin"

DeForest DV/DL Tubes
History of Magnavox Company
Rider Manuals
The James Millen Company
Collecting Early Batteries
History of Amrad Corp.
Short History of Philco
The Bliley Crystal Company
The SE-1420 [IP-501] Receiver
Armstrong's Super-Regen set
Collecting Wire/Tape recorders
How to build a 1910 receiver
plus much, much more....

FREE LIST of amateurs who check into AWA NETS. Send SASE to:
Ken Gardner, 42 Oakdale Ave., So. New Hartford, New York 12313

DON'T FORGET: Bring your old books, magazines and catalogs to the Local Spring Meet Auction at East Bloomfield, May 2.

The Auction will also provide an excellent opportunity for members to pick up some good "buys" !

COMING EVENTS

ANTIQUE WIRELESS ASSOCIATION

C. H. R. S. - A. W. A. MEET
Saturday, May 2
Foothill College, Los Altos, Calif.

Local A. W. A. Spring Meet, May 2
Legion Post, East Bloomfield, N. Y.

I. H. R. S. - A. W. A. MEET
May 8 and 9
Auburn Museum, Auburn, Indiana

ARRL Atlantic Division Convention
May 16-17, Rochester, N. Y. (Exhibit)

MID-WEST AWA CONFERENCE
May 22 and 23
Minneapolis, Minnesota

SOUTH-EAST AWA CONFERENCE
May 22 and 23
Ramada Inn, Winston-Salem, N. C.

Regional AWA SUMMER Meet
Saturday, July 18
Breesport, N. Y.

NATIONAL AWA CONFERENCE
Oct. 22 thru 24
Sheraton Inn, Canandaigua, N. Y.

Annual Business Meeting, Nov. 1
Sheraton, Canandaigua, N. Y.
(All members are urged to attend)

Worker's Annual Christmas Party
Nov. 21 Ionia, N. Y. (location subject to change)

Other events to be announced in future Bulletins.

CONFERENCE CHANGED

It is with regret we announce a change in the 1981 Conference location. Originally set for Dearborn, Michigan, it is now scheduled for the Sheraton, Canandaigua, October 22-24, 1981. Reason: financial problems and a question of flea market space. We're sorry if the change inconveniences anyone, but we believe the decision is best for the majority of members.

AWA Executive Committee

ASSOCIATION NEWS

I'M GOING - ARE YOU ?

Planning to fly to National Conference in October? If so, you may wish to share a ride from the Rochester Airport to Canandaigua and return.

Send your name, telephone number and approximate time of arrival in Rochester to AWA Secretary with a SASE. Around the middle of September, copies will be made of all information received and mailed.

From this information, members can telephone one another and make final plans. The information sheet will also include a new map showing a new super-highway to Canandaigua with only two turns!

SASE to: Dick Ransley
17 Sheridan St.
Auburn, N.Y. 13021

THE TUBE COLLECTOR

Starting with the June issue, the Tube Collector column will be the joint effort of Gerald Tyne and Lauren Peckham. Lauren will phase out his Tube Fact Sheet and include his material in the OTB for all members to read. This is a practical approach with the increase interest in vacuum tube development.

HOUCK AWARD NOMINATIONS

The time has come again for members to select nominees for the HOUCK AWARDS. There are two Awards: One for Historical Documentation and the other for Historical Preservation. Give serious consideration as to your selection and send names to the Awards Committee:

Robert Morris, Chairman
Sunset Lake Road, RFD #1
Sparta, New Jersey 07871

Other Awards: The Tyne (Vacuum Tube), Elle (Receiver) and Matlack (Transmitter) Award recipients will be announced at the Annual Conference.

Batcher Award

Congratulations to Ed Raser, W2ZI, as recipient of the *1980 Batcher Award.* This prestigious award is given annually to a member of the *Radio Club of America* for outstanding work in the field of historical radio. To date, four-out-of-five recipients have been AWA members and licensed radio amateurs. They are:

Morgan McMahaon, *N6VY* (1976)
Bruce Kelley, *W2ICE* (1978)
Robert Merriam, *W1NTE* (1979)
Ed Raser, *W2ZI* (1980)

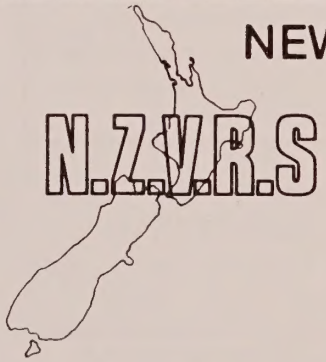
In Memoriam

HENRIETTA SWOPE
Scientist

Henrietta Swope is dead at the age of 78. Miss Swope was born in St. Louis in 1902, the daughter of Gerald Swope, president of General Electric Co. She received her BA from Barnard College in 1925, and an MA from Radcliffe College in 1928.

She served as a mathematican in the Navy's Hydrographic Office where she helped develop Loran. Earlier she took part in Radar experiments at Massachusetts Institute of Technology.

In 1952, Miss Swope began a 16 year association with Mount Wilson and Polomar Observatories where she discovered and measured numerous variable stars in nearby galaxies, furthering establishing the 'yardstick' for determining disances to galaxies outside the Milky Way system. --- Bob Cobaugh, W2AY



NEW ZEALAND VINTAGE RADIO SOCIETY

Members living in New Zealand (and Australia) are invited to join NZVRS, an active group of radio historians and collectors. For more information, write: John Stokes, 281-C Hillsborough Road, Mt. Roskill, Auckland 4
New Zealand

NEW MEMBERS

who are (or were) with electronic communication or industry:

Wm. Thompson (K9JGT, ex-W8BDV) Kapco Inc. - Video

Ryoju Hanazawa (WB6OBD, ex-JA1DOD) Radio Corp. of Amer.

George Linley (W8PEQ) Admiral Radio, Stat. WAGM, etc.

Michael Keith, Communications Instruct.

Maurice Green (Grayton, England) Radio/Radar, Ministry of Defense

Peter Adely (K2MHP) Worth Comm. and Electronics

Frank Simon (WB2PUH) Stats. WROW, WQBK, WTEN, WTSC

Gardner Smith (W9ALZ, HS4ADF, DU2AMZ)BC Eng. Thailand and Philippines

Darrell Gordon (WA4ABS) Stations WINC, WRFL

Peter Lankshear, Eng. Div. Broadcast Corp. of New Zealand

John Cirillo, National QC, Radio Shack

Archie Shearer, Bendix Avionics

Jorma Riihimaa (OH8PX - Finland) Prof. Radio Astronomy

Dave Zimmerman (W3ZD) Naval Air Development Center

Paul Putman (KØPZN) Owner, Dakota Radio Co.

Jacob Gleigh, Hepco, Inc.

Bert Marshall (K2JAQ, TI2JAQ) Gurmen, S.A.

J.D. Leslie, Clough-Brengle, Lear, Raytheon, Bendix

Arthur Winter (W2ADB) Radiomarine Corp., Grace Line, Moore McCormack KIFV, KGOX, KAFV, WMDT, KDDI, etc.

Melvin Dunbrack (W1BHD) James Millen, Amrad, Crosley Radio, etc.

Horace Fohn (W5HBT) Commercial Marine (RMCA) plus CAA, FAA, etc. and stat. XERA

Vincent Anello (K7AO) Mackey Radio Stat. KFS

Larry Nutting (WD6DTC, ex-K7KSW) Stat. KWSC

Howard Randall (W7SEH, ex-W7FOZ) Chief Eng. KBPS, F.C.C., Avionics, Boeing, etc.

Robert Dickson (K6HSJ) Stats. KPIX, KERO, KSBY

Harry Hyder (W7IV, ex-W2LIW, W3NVL) Motorola, Bendix, Fairchild

Madell Reynolds (K4AAO) Computer Science Corp.

Jack Diamond (WB6UZI) Flight Radio Operator USAF

Arthur Mill, Communication Eng. Reading & Conrail

AWA welcomes another European member, Franz Mock who lives in Krems, Austria. Franz is interested in historical radio and has a fair collection of early equipment. He would like to correspond with AWA members who read/write German. SASE to Linc for his address.

AWA LOGO

Apparently our AWA logo (initiated by W4DBT) is not entirely original. Jim Bergquist sent us the above foto of a similar Hertz Resonator. . . and you would never guess where he found it ? The little emblem was located inside an old camera made by Zeiss Ikon about 60 years ago. We wonder why a camera firm used a radio logo. Any ideas ?

COVER STORY ....

Aeronautical wireless in the 1910-12 period was both hazardous and challenging. Spark coil transmission was relatively easy, but not so on receiving.

I doubt the wireless operator (pictured on the cover) was hearing very much above the roar of the nearby engine (and ignition noise).... with his crystal set receiver.

-- Carl Zeigler

CALIFORNIA CHRS

ANNUAL SPRING CONFERENCE CALIFORNIA HISTORICAL RADIO SOCIETY
and THE ANTIQUE WIRELESS ASSN.

SATURDAY, MAY 2, 1981

Foothills Electronic Museum
12345 South El Monte Road
Los Altos Hills, Calif.
(near San Jose)

Activities from 8 A.M. to 5:00 P.M.

SWAP-MEET starts at 8 AM 'til noon

LUNCHEON: Noon - 1:30 P.M.

(Equipment judging during this period)

Programming for the radio historian and collector from 1:30 to 4:00 P.M.

Details will announced on final program.

Contest equipment will be on display from 4 to 5 P.M.

REGISTRATION FEE: $2.00
SELLERS' FEE: Additional $3.00
Registration and information, write:
Charles Byrnes, 1201 Sycamore Terr. 102
Sunnyvale, Calif. 94086

OLD EQUIPMENT CLASSIFICATIONS
for Contest (subject to change)

1. Crystal receivers
2. Regenerative receivers
3. T.R.F. receivers
4. Super-heterodyne receivers
5. Early wireless gear
6. A.C. table models
7. Homebrew equipment (new)
8. Homebrew equipment (old)
9. Tube transmitters

SPECIAL AWARDS:

---Most unique set
---Best of show

This "meet" promises to be one of the TOP gatherings on the West coast this year for the radio collector and historian. Final program will be in the mail sometime in March to all A.W.A. and C.H.R.S. members in Western states. SEE YOU MAY 2 !

MINNESOTA

1981 A.W.A. UPPER MID-WEST REGIONAL CONFERENCE
May 22, 23, Minneapolis, Minn.

Friday---Registration. Visit to "Museum of Wonderful Wireless"

Saturday- Flea Market and visit to Bakken Museum of Electricity
Afternoon programming (to be announced)
Evening banquet with entertainment.... Awards and fun for all!

"Flyer" with ALL information will be mailed to all previous attendees and members in upper mid-west states. A great time is promised for all. Additional information may be obtained from: Joe Pavek, WØOEP
2632 Nicollet Ave., Minneapolis, Minn. 55408

NEW YORK

LOCAL SPRING MEET, SATURDAY, MAY 2

American Legion Grounds (1 mile east of AWA Museum) on north side Rte. 5&20.
East Bloomfield, New York

9 AM to Noon--FLEA MARKET
11 AM check-in auction material
12 NOON-Dinner (all you can eat for $5.50)

1 PM SOFT-WARE AUCTION
Old books, magazines and catalogs
2 PM Program of interest for everyone..
3 PM Open House at nearby AWA Museum

$1 registration for everyone (!) to cover facilities

AWA NORTH CAROLINA

A.W.A. SOUTH-EAST CONFERENCE, WINSTON-SALEM, N.C.
Friday & Saturday MAY 23, 1980

Headquarters: RAMADA INN (Downtown), Cherey and Marshall Streets

Another weekend of southern hospitality awaits you...programming, flea market, swap session, door prizes and of course a sumptuous banquet!

PROGRAM (Times to be announced in "flyer")

---PRINCIPLES OF REGENERATION..talk by Dr. Marshall Helms.
Marshall will use an Aeriola Sr., Magnavox amplifier/speaker to demonstrate

---WOMEN IN COMMUNICATION...with Lou Moreau, W3WRE. Don't let the title fool you since it is a historical commentary of interest to everyone!

---TRIALS & TRIBULATIONS OF BROADCASTING by "Connie" Conrad, K4BE
A good look at our hobby from the "other side"..by an old time BC engineer.

---ANNUAL CONFERENCE BANQUET...Guest Speaker: Taylor Sutliff, W4NQN
Taylor will present an entertaining program and slide show covering life and radio operation on remote Pitcairn Island (Narration by Tom Christian).

.....Big free HOSPITALITY ROOM both Friday and Saturday nights!!

REGISTRATION: Only $4. BANQUET: $12.

Note: All members in the South-east area (and previous registrants) will receive the "flyer" in the mail in early May.

For additional information, write: LEW ELIAS, W4DBT
3919 Poindexter Dr., Winston-Salem, NC 27106

AWA INDIANA IHRS

INDIANA HISTORICAL RADIO SOCIETY and ANTIQUE WIRELESS ASSOCIATION
Regional Spring Meet, Saturday, MAY 8 - 9, at Auburn Indiana
AUBURN - CORD - DUESENBERG MUSEUM

Friday, May 8 STARLITE MOTEL
6:00 PM Registration at Motel
7:30 PM "Old Time Movie"
Starlite Hospitality Room

Saturday, May 9 Auburn Museum
9 AM Registration at Museum and "Swap Meet" South Parking Lot
10 AM Register items for AUCTION
Register for Old Equipment Contest
(Both must be registered before noon)
10 AM Open sale of donated equipment
1 PM Auction of personal items
(10% donation to Museum Fund)
4 PM Contest Judging (Jerry Hueber)
6 PM Reception at Starlite Motel
7 PM BANQUET and AWARDS at the Super Steer Restaurant on State Road 8 at I-69

Program: "20 Days in Exotic Red China"
Presented by Julian Stark

PRE-REGISTRATION: Banquet reservation must be received before May 5.
Banquet & Museum admission---$12.00
Adult admission at door (Museum) $2.50

Make checks payable to I.H.R.S. and mail to Ross Smith: 1133 Strong Ave., Elkhart, Ind. 46514 (Please make your own motel reservations at either the L&K Motel, Tele. 800-447-4470 or the Starlite Motel 219-925-0500, both on SR 8 W, Auburn, IN 46706)

Make your plans NOW for a great time. Those who have attended previous Meets will receive a full program in the mail with Contest Classes and other information...others write Ross Smith..

SEE YOU MAY 9 !

Del Barrett & Ross Smith
Co-Chairmen

COLLECTING THE BIG "LITTLE"

by Chuck Dachis, WD5EOG, Austin, Texas

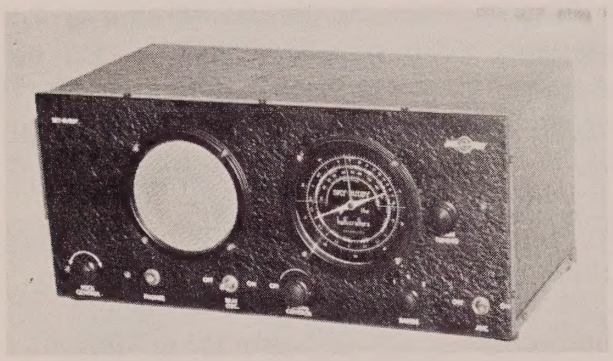
The seeds for my collecting Hallicrafters were planted many years before the actual start of the collection. As a child, in the mid-40's, I much preferred old electronic devices discarded by my neighbors to the usual toys manufactured for my age group.

In 1954 a friend opened a TV-Radio repair shop and was willing to allow me to watch and learn. I spent many hours there learning practical electronics and eventually "falling in love" with the old console radios of the 30's and 40's. The more knobs, dials, and tubes they had, the more I was fascinated by them.

One of my favorite dreams was finding a store which had wall to wall used receivers of that period, which were priced within my means. Periodically I would find, at our local Goodwill store, what I called a "super radio", such as the RCA model 816K for $5.00 ! This never happened often enough to satisfy my hunger for old receivers !

My first Hallicrafter Receiver was an SX-28 that I found in 1960. I then discovered that a "super radio" didn't have to have a big wooden cabinet. The SX-28 certainly was a "super radio". I loved that radio, but sold it a couple of years later.

As I encountered the usual problems in becoming an adult and establishing myself in life, my activities in radio and electronics became dormant. Except for an occasional nostalgic twinge, I did little between 1964 and 1975.



The rare 5-T "Sky-Buddy" 1935-36

In 1975 it occurred to me to start a collection of "super radios" of all brands. I felt my first one had to be the SX-28. At this time I wasn't aware that Hallicrafter made anything but SX-28's, since I had not seen any other models. During my six month search for the SX-28, I came across the S-36 and an S-38B. The S-36 certainly qualified for the "super radio" classification. The S-38B didn't, but the price was right !

At this point I began to wonder how many other receivers Hallicrafter had built, and so the collection was now started in earnest on receivers with an S or SX designation only. I discontinued looking for other brands. Since Hallicrafter was best known for ham radio gear, the thought occurred to me that the best way to find them was to advertise in ham radio publications.

Early S-31 BC/FM Tuner - 1940

The response to my ads was overwhelming. I had finally found my "*dream store*", in the attics and basements of America's Hams !

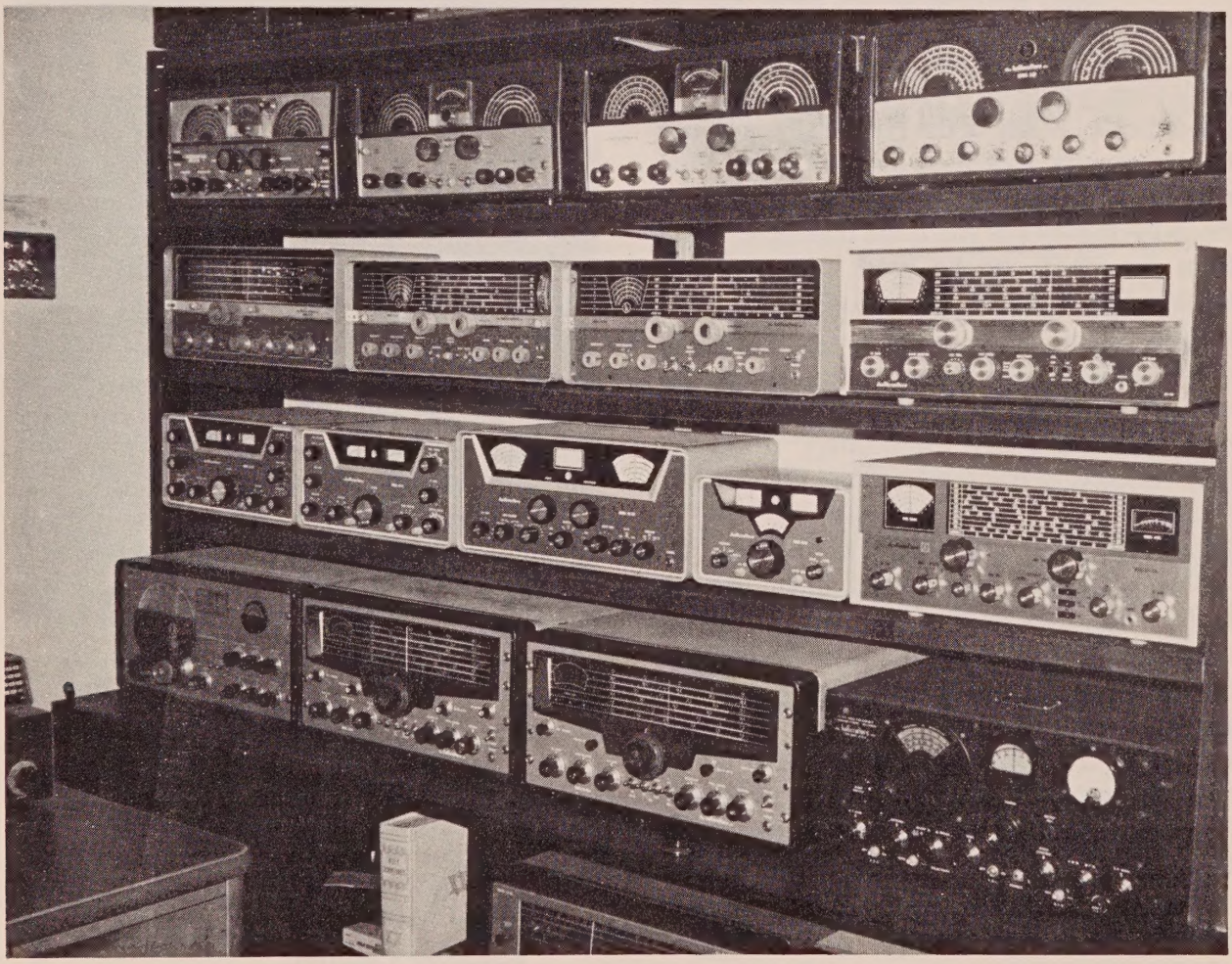
As the receiver collection grew, I discovered more and more items made by Hallicrafter and decided it would be a real challenge to try and expand the collection to include all their Ham gear as well as commercial, military, and home entertainment equipment built between 1931 and 1968.

I found it a real challenge, because Hallicrafter was a very prolific company and produced so many different things that no one seems to know just exactly what was produced. Documentation was poor in the early days, and I am constantly finding Hallicrafter equipment that is not too well known such as the HT-36, the Super Seven, the S-33, and much more.

All the gear that goes into my collection is completely restored to its original condition, both physically and electronically. I am also keeping a complete log on each unit -- where it came from, cost, work done, results, etc.

The biggest problem with the restoration of these units is removing modifications installed by previous owners, cleaning up former repairs,

It is believed to be the largest collection of Hallicrafter equipment in the world.



matching paint for panel and case work. Typical problems with the collection include display space, difficulty in identifying some of the early models that were produced before the model numbers were being put on the unit, and communicating with those people who have these radios, and letting them know I want them. Not everyone sees my ads.

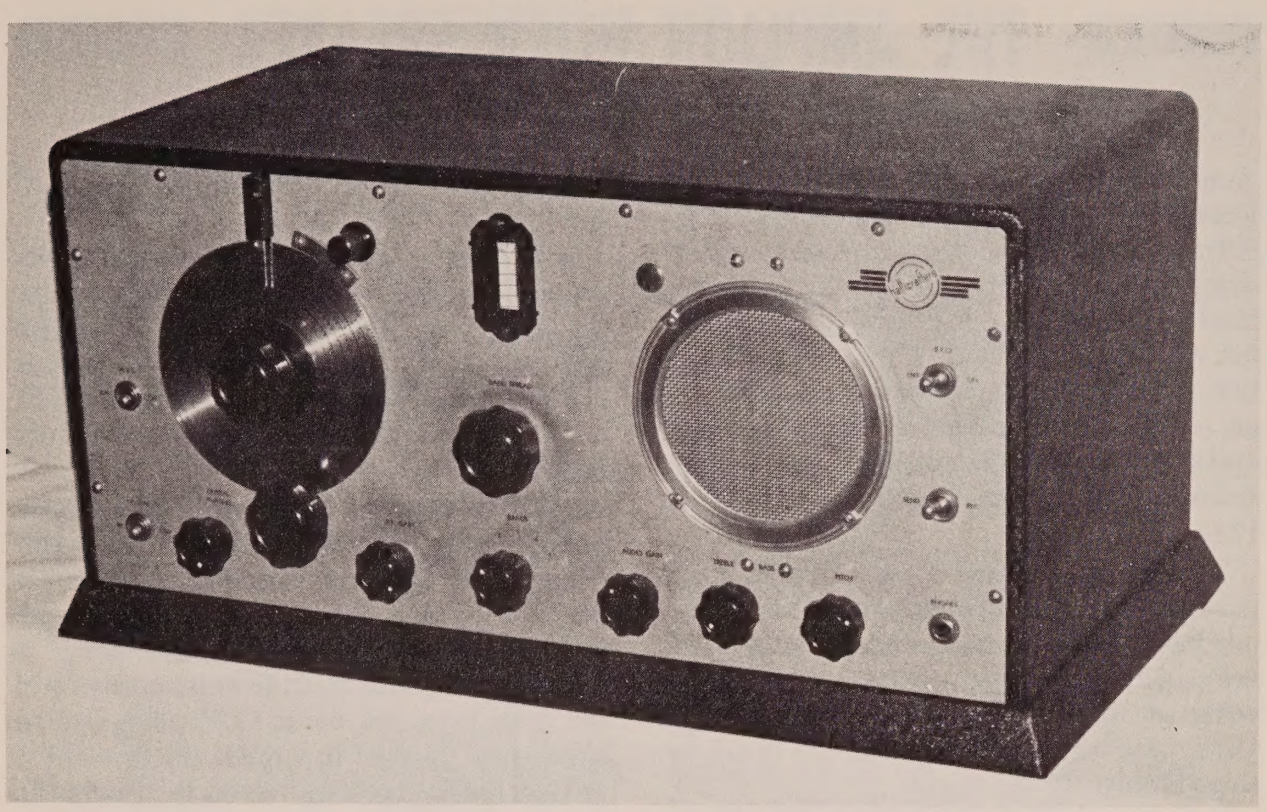
One would think that locating major replacement parts would be a problem. It really isn't too difficult. Many of the Hallicrafter sets use the same parts, so a good stock of spare parts may be had by stocking several extra units like the S-20-R which is still quite common. Parts from the 20-R can be used in many later models. The same thing is true of several other models.

At the date of the writing of this article, the collection includes, one hundred and five(105) receivers, two dozen transmitters, a slightly lesser number of transceivers, one TV(A T54) and numerous accessories such as VFO'S, Panoramic Adaptors, speakers, external "S" meters and even some test equipment like the HG-1 signal generator.

Interesting side lines of this collection includes helping other people find parts and specific models that they may be looking for, and giving technical assistance to other Hallicrafter owners. I also enjoy corresponding with others about Hallicrafter and every letter I receive is answered.

The most rare units in the collection include the S-5, DD-1, Super Seven, S-8-A, S-9, S-10,

The famous (and equally rare) Model DD-1 Dual Diversity receiver made in 1937-38. The set uses 25 tubes. The audio chassis and power supply are located in the lower speaker cabinet (which contains a 15" Jensen co-axial speaker). The tuner section is on top of the speaker cabinet.



Early production model of the SX-9 (1936). Later models had a different dial and did not have the logo at upper right.

and the HT-36. Many others are still needed. At the top of the "want list" is the S-1 (a 4 tube TRF in a wood case).

Besides the equipment, the collection includes a nearly complete set of original manuals, correspondence with former Hallicrafter employees and radio historians knowledgeable on the Hallicrafter company. In addition, I have memento items of the Hallicrafter company, such as stick pins of the famous SCR 299 and tie tacks with the Hallicrafter Logo.

This collector would be delighted to hear from more former employees and any one else interested in helping him to preserve a part of our ham radio past.

Quick reference to:

RECENT ORIGINAL ARTICLES

of interest to radio historians

A listing of all British radio magazines from 1911 to 1939. Includes first publishing date and any subsequent name change. B.V.W.S. Sept. 1980

"Edwin Armstrong- Genius Inventor" Brief biography on Armstrong -- much of the material from Lessing's "Man of High Fidelity".

Nov. 1980 "Audio" magazine

"Capehart Mechanical Marvel" -- a fascinating description of the early Capehart automatic phonograph changer.

Nov. 1980 "Audio" magazine

George W. Walker "Multi-Unit" by Floyd Paul, W6THU. Don't let the title fool you for it is a popular short-wave converter made over 50 years ago. Floyd tells about this and other SW converters made in the late 20's and early 30's. Interesting. Maybe AWA should have a SW converter class in the Annual Old Equipment Contest.

Nov. 1980 "CQ" magazine

"Who Really Invented Radio?" A provocative article on Nathan Stubblefield of Murray, Kentucky fame. Why authors want to associate Stubblefield and Loomis with radio is beyond me. Neither transmitted or received Hertzian waves which I believe is another name for radio waves. Am I right or wrong ?

Dec. 1980 "73" magazine

"Project Tesla" by Robert Golka. Tells about a current project at Wendover AFB (Utah) where the author is conducting experiment with 20 million volts similar to Tesla's work at Colorado Springs in 1899.

Feb. 1981 "Radio-Electronics"

THE AMPLION HORN SPEAKER

by Floyd Paul, W6THU, and John Stokes, Auckland, New Zealand

Amplion speakers have a surprisingly long lineage for it was in 1887 that an Englishman, Alfred Graham, invented and patented what was later claimed to be the "*world's first practical loudspeaker*". Incidentally, this claim has never been disputed. For many years the only practical application for these early speakers was in shipboard loud-speaking telephone systems although a 1925 ad refers to 'Graham' speakers being "placed upon the market" in 1893.

The British Navy became an early customer in 1894 and up to 1906 Graham loud-speaking telephone systems underwent specialized development for marine applications, the first watertight model being introduced in 1898. By 1919 there were 12,000 installations in use on ships throughout the world.

With the advent of radio broadcasting, Alfred Graham & Company were quick to see the possibilities of offering speakers for radio use and in 1920 the first 'Amplion' appeared. At this time, it should be realized, headphone listening was universal so once again the firm of Graham was a pioneer. So successful was the firm's marketing effort that by 1925 the name Amplion was known in over 25 countries in all parts of the world.

In the U.S. the Signal Electrical Manufacturing Company was originally the agent for Amplion but in 1924 the Amplion Corporation of America was established. At that time certain models were manufactured in the U.S. while others continued to be imported from England.

In recent years Amplions have become one of the most sought after horn speakers by collectors in the U.S. and elsewhere. The classic model is the AR-19 with its mahogany or oak petals and it is further described as follows: A rubber bushing insulated the wooden section of the horn from the metal "C" neck section which was finished in wrinkle paint, while a second rubber bushing served to couple the driver unit to the other end of the "C" section. A nickel-plated hinged stand (base) allowed for tilting of the horn. A knurled metal knob at the rear of the unit served to control the volume. The AR-19 typically sold for $42 in the U.S. and for five guineas in the U.K. during the years 1923-25.

[Continued on next page]

Model AR-39 Amplion speaker with 10" bell from John Stoke Collection. [Photo by Jim Vermeer]

AMPLION RADIO HORN SPEAKERS

(1) (2) AR Model	Year	Style or Name	Description
1/3	?	Wall or table	Adj. swivel base, straight trumpet
5/7	23	Universal	180° adj. swivel, straight trumpet for wall or table
9	28	Swan neck	Bakelite base (last external horn model)
13/15	23	Swan neck, Music Master or Beauty	Small metal three legged base
17/19	23	Dragon	Oak or Mah. petal horn flare (15" flare)
23	25	"Concert" Dragon	Oak or Mah. petal horn flare (21" flare)
27	25	"Concert" Grand	About 27" flare
38	26	Junior Swan neck	Pressed metal base
39	23	—	Small horizontal trumpet
41/43	23	Jr. De Luxe	Straight trumpet
45	23	Jr. De Luxe	Straight trumpet (sold in U.S.)
49		Leviathon	—
58		Senior Swan neck	Same as AR-88 but has cir. metal flare.
60/61	23	Portable	In box with collapsible stand
65	26	New Sr. Dragon	Sq. bakelite unit (driver)
88	?	Swan neck De Luxe	Metal flare, tripod base also wooden petal flare
101/102	24	Baby Amplion, Dragonfly	—
110/111	24	New Jr.	10" metal flare
113/114	24	New Jr. De Luxe	Wooden petal flare
AA 18	26	Patrician	Large table model cabinet (9 x 12 x 18 inches) - sold only in U.S.

Note:

(1) When two numbers appear in the model column, the first number is a 120 ohm winding, and the second number is a 2,000 ohm winding.

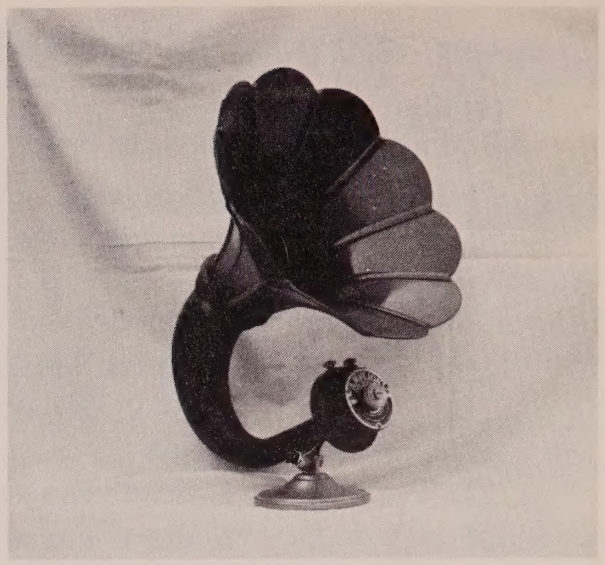
(2) In addition to the above listed models there were two others of which the authors are aware, a 14" all-metal table model and a 23" 'Concert Grand' model with a petalled oak flare. Both were being advertised early in 1923.

Of the speakers listed in the accompanying table the models known to have been sold in the U.S. were AR15, 19, 39, 45, 61, 102, 111, 114 and AA 18 (the latter made exclusively for the American market). The list does not include phonograph units nor cabinet style (enclosed horn) models, apart from the AA 18. The dates listed in the year column have been compiled from a search of available British and American ads. As Amplion speakers were first advertised in such American journals as *Popular Radio* and *Radio News* from the end of 1924 it is assumed that they were first marketed in the U.S. at that time.

Some models, e.g. AR-19, changed from using a round metal driver unit to a square bakelite unit without any change in model number. The AR-45 which was sold in the U.S. appears similar, if not identical, to the AR-41 and AR-43 which were available on the British market. The AR-41 and AR-43 were the first "Junior De Luxe" models: they had a straight trumpet with a wooden petal flare. After them came models AR-113 and AR-114 which had curved horns and were known as "New Junior De Luxe".

[Continued on next page]

Mod. AR-111 with 10" bell



Mod. AR-19 with mahogany petals (15")

Over the years there were three distinct types of driver units in use but not all three were used on any one model. The thicker, or longer, round drivers were the oldest and were retained up to about mid-1925. Then came the shallower ones which were followed in 1926 by the square bakelite drivers. The square units were also used on the 'Radiolux' enclosed horn cabinet models.

The three pictures show an AR-19 with an older style round driver, an AR-111 "New Jr." with a square bakelite driver and an AR-39 with a shallower style driver.

Canandaigua inn sold for $3 million

CANANDAIGUA — The new owners paid about $3 million to buy the Sheraton-Canandaigua Inn, the major motel in this resort city, one of its buyers said yesterday.

Edward P. Storto, vice president of One Canandaigua Properties Inc., also said plans for an $8 million to $10 million expansion and improvement project at the motel will be announced soon.

Storto said he expects to announce plans for the future of the Sheraton in about six weeks and improvements on the two-story, 115-room inn could be made over the next two to three years, depending on the money market.

OUR COLOR COVER

The Association is indeed fortunate to have a skilled printer-- and equally important, a generous one. The December Bulletin is the fourth year which Don Ray, WA2PKS (the printer) has given AWA a color cover as a Christmas present. Commercially, such a cover would have cost us $600. Tks Om.

SHERATON SOLD

The local newspapers just carried headlines that our Conference Headquarters, the Sheraton Motel, has been sold to some Rochester developers. The new owners plan to increase both room space and dining facilities. Welcome news....time will tell.

Our Conference is no longer a one or two day meet. It has developed into a 3 to 5 day affair which members from all over the country assemble for a great time..... Good facilities and accommodations at reasonable expense are important.

STONE REQUEST

A request in the last OTB for a picture of radio pioneer John Stone Stone brought three replies: one in "Radio Broadcast" magazine, another in the IEEE Spectrum (June '68) and an actual 8x10" glossy from Dr. Myron Shaw at State University. The latter photograph was most interesting since it was taken when Stone was a young man-- unlike later ones with his round horn-rim glasses. The picture was from the George Clark Radiona Collection.

RECENT RADIO and ENTERTAINER OBITUARIES

LAURENCE MARSHALL, RAYTHEON FOUNDER

Served as President for 38 Years

Laurence K. Marshall, a founder and former president of the Raytheon Company, an international, diversified electronics concern, died Wednesday at Mount Auburn Hospital in Cambridge, Mass. He was 91 years old.

Mr. Marshall founded Raytheon in 1922 with the financial backing of a roommate, Vannevar Bush, the professor at the Massachusetts Institute of Technology who, in World War II, coordinated the nation's technology, and several other investors.

At that time Raytheon was a one-product company, manufacturing radio tubes. The company today employs 78,000 people worldwide in electronics, aviation, appliances, energy, construction and publishing.

Under Mr. Marshall's leadership, which extended from the company's founding until his retirement in 1950, Raytheon developed many technological innovations. In World War II it played a significant role in the development of radar.

Served in France

When the United States entered World War I, Mr. Marshall joined the Army as a second lieutenant and served in France. After the war, he returned to Boston, a 30-year-old civil engineer with modest savings.

He got in touch with a friend, C. G. Smith, an inventor who had created several refinements in home radios. Mr. Marshall, Mr. Bush and Mr. Smith founded the Raytheon Company in Cambridge.

Robert E. Kintner, Ex-Head of ABC and NBC Radio and TV

Robert E. Kintner, 71, a former president of both the ABC and NBC radio and television networks who was largely responsible for innovations that are now common practices in the broadcasting industry, was found dead yesterday at his home in Washington. He had a heart ailment.

Mr. Kintner's particular interest as a broadcast executive in the early days of television was news. He pushed constantly for expanded budgets for the news operations. One result was the increasing frequency of special reports for which regularly scheduled programs — some of them highly profitable — were canceled for the night. At ABC, he ordered full live coverage of the Army-McCarthy hearings in 1954. At NBC, he organized the famous Huntley-Brinkley news anchor team.

At the same time, he made some notably successful decisions in the entertainment field. At ABC, which he joined in 1944 and where he was president from 1950 to 1956, Mr. Kintner brought "Disneyland" to television. One of its first long episodes was "Davy Crockett" and the Disney program became one of the network's major money-makers for several years.

When Mr. Kintner went to NBC, where he was president from 1957 to 1966, the Disney series went with him. He also switched "Bonanza" from Thursday night, where it was doing badly, to Sunday night, and the show became a long-running staple of television.

At NBC, which hired him away from ABC, Mr. Kintner was impressed by the coverage David Brinkley and Chet Huntley gave to the 1956 political conventions. So he began "The Huntley-Brinkley Report," a new and enormously successful concept for the network's evening news program.

Among the special events that Mr. Kintner ordered covered was the funeral of John Foster Dulles, President Eisenhower's first secretary of state. At that time, television did not cover funerals. Both the public and the critics acclaimed the program. When President John F. Kennedy was assassinated, Mr. Kintner ordered round-the-clock coverage and had all commercials canceled.

Clair L. Farrand, 85, the Inventor Of the Cone Radio Loudspeaker

WHITE PLAINS, Jan. 7 — Clair Loring Farrand, inventor of the radio loudspeaker and holder of more than 250 patents, died today of a heart attack at his winter home in Palm Springs, Calif. He was 85 years old and lived in Bronxville, N.Y.

Mr. Farrand was founder and president of Farrand Industries Inc. of Valhalla, N.Y., and his companies had control of roughly 1,000 patents. They ranged from bombsights for the B-52 bomber to windows for space program simulators.

Names of Survivors Copied

The Inductosyn, or Farrand scale, is widely used in manufacturing. It is an electronic measuring device used for machine tool control, computer memory and submarine navigation.

A pioneer in the radio industry, Mr. Farrand was a wireless operator in a Marconi station at Wanamaker's department store in Philadelphia in 1912 when the Titanic hit an iceberg in the North Atlantic. David Sarnoff was the operator at Wanamaker's Manhattan store.

"I spent all night copying a list of surviving passengers from the steamship Carpathia approaching the coast, for the Philadelphia papers," Mr. Farrand once wrote, "while Sarnoff was doing the same thing for the New York papers."

Mr. Farrand left the Marconi Corporation in 1918 to perfect his cone loudspeaker. It did away with the general use of earphones and replaced the horn type of speaker, which was hard and unable to produce the vibrations, and thus higher fidelity, of Farrand's paper cone speaker.

Mr. Farrand later worked with Warner Brothers developing sound, color and cine photography. The Farrand Optical Company manufactured range finders, periscopes and later bombsights, simulator windows and optical probes.

He was an accomplished yachtsman, a past commodore of the Larchmont Yacht Club and a member of the New York Yacht Club. In 1979, Mr. Farrand received the Pioneer Award of the Radio Club of America.

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SILENT KEYS

Alton Fitch, W3AW
Nick Andriatch
Ron Scranton
Leo Wilber, W1MV
Donald Hudson
Richard Peck, W4RL
Jack Ostrander
Frank Matejka, K5RS
Vance Phillips, W6GH

RESTORING OLD EQUIPMENT

How did you SOLVE a problem when re-storing a receiver? Drop us a note telling how you did it.

E. M. SARGENT'S INFRADYNE

by Rodney Schrock, Somerset, Pennsylvania

When one thinks of 3.2 mHz IF amplifiers it is usually with the first IF of a dual conversion communication superhet or a mobile fire or police set. Strange as it may seem, the idea of amplifying at this frequency is not new since it was pioneered by Remler/ Sargent at least as early as 1926.

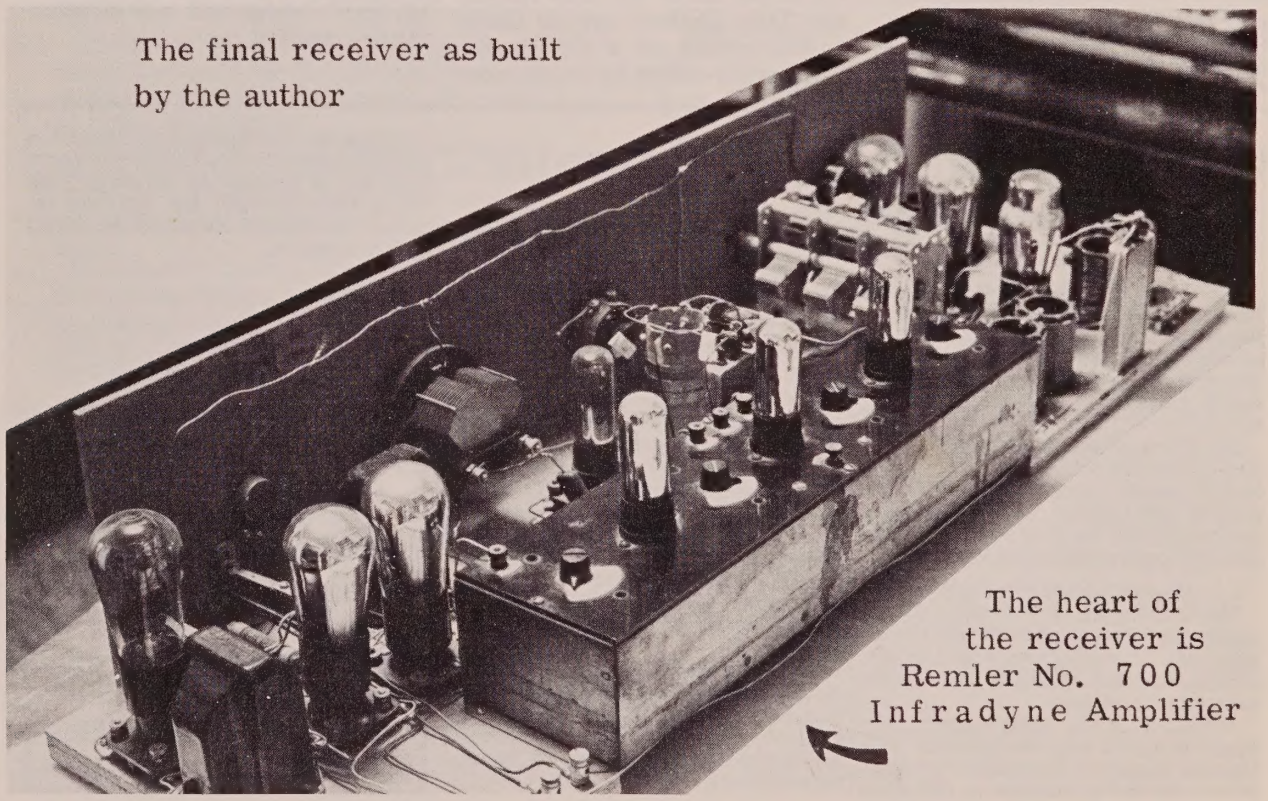
If one looks, for instance, in the August 1926 issue of *RADIO* magazine, he will find the "Infradyne" receiver described by E. M. Sargent on page 11. An ad on page 4 announces: "Build the Infradyne -- Revolutionary -- Ultra Modern". An ad by the Remler Company on page 5 says: "New Remler Infradyne Amplifier -- Free from longwave commercial station interference -- Reception on one setting of each dial -- Extraordinary selectivity".

The heart of this receiver is the Remler Model No. 700 IF amplifier. I don't know that the #700 was the only IF amplifier Remler produced. Page 46 gives the actual schematic of the 700 which uses 3 triodes (UX-199s), 4 tuned circuits plus a neutralizing condenser, all tuned to 3.2 mHz.

I was introduced to my first "Infradyne" through George Starry (Latrobe, Pennsylvania) in the summer of 1970. He showed me the remnants of an Infradyne minus many parts and all the tubes.

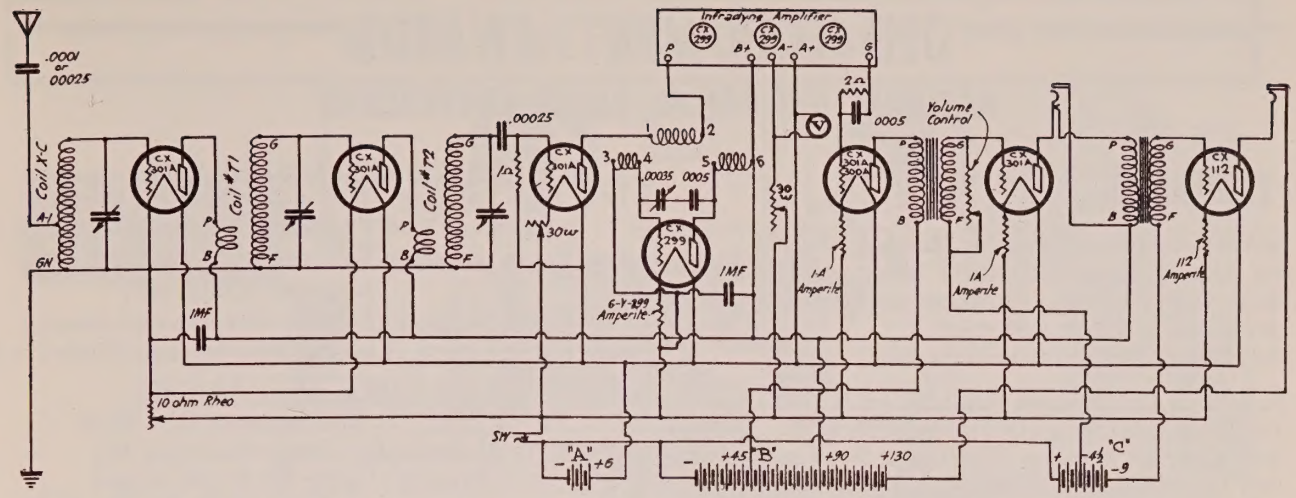
The remains were covered with dirt and grime with some corroded. Rheostats were missing and the 700 amplifier had been modified by installing a separate 6V - 3V Amperite for each UX-199 tube.

I was lucky to find two issues of *RADIO* which described the Infradyne. The only difference in the sets was one used Camfield DUO-formers as antenna and RF coils and an-



The final receiver as built by the author

The heart of the receiver is Remler No. 700 Infradyne Amplifier



Basic circuit as described in August, 1926 issue of "RADIO"

other used Thorola Donut coils.

As I looked over my receiver and the ones in the magazines, I found the builders did not follow the lead dress as specified by the author. Nevertheless, I plunged ahead on my restoration, completely re-winding one Duo-Former, as the insulation was just about off the wire.

After completing the restoration and firing up the receiver, the best I could say about the performance was "blah!". I found I had two radios in one -- a TRF which I could tune the RF and converter stages and the signal would take some devious path to the detector. Then, I could tune the oscillator into the "ball park" and I had a superhet.

Tracking was nil as the vernier plates on the 3-gang Continental tuning condenser were missing. The author of the article gave dire warnings against departing from specified lead dress and part placement!

Shortly after, I traded my Infradyne and turned to other projects content in knowing the original builder (who thought he knew more than Mr. Sargent) built himself a real "dog". Perhaps he didn't know any better and went among his peers either praising or deploring his creation.

One day in 1973, while pouring through my piles of notes and articles, I re-assessed the Infradyne. I said, "SELF, if this thing was assembled according to the book, it might really be something".

That spring, at the ARCA Harrisburg Meet, I got my Remler amplifier back. Who wants an amplifier with home-drilled holes in the top plus DUO-Formers and others of not one's choosing?

Again I started to build an Infradyne using a plywood base and Masonite panel. I place the parts on the board very carefully and wired the set according to "the book". Instead of a Continental tuning condenser, I used a surplus 3-gang 365 pf. with small trimmers wired across each section.

I used "Magnavox" doughnut coils instead of Thorola. I tried the set, results: very poor. Enter a modern signal tracer which told me I had too much loss through the coils. Well, maybe I could jockey around the connections and perhaps the Magnavox tuning condenser had an odd capacity.

As a start, I re-wound one DUO-Former changing it from a one winding coil to a 2-winding and placed it back into the set.

Without even adjusting the trimmers, the results were extremely gratifying. After further alignment: sensitivity was great, selectivity was excellent and I separated a local 990 from KDKA on 1020 kc with no sweat. I had something.

I found the receiver did not overload and make spurious response, images were non-existent and volume into a RCA 104 speaker was more than sufficient. Now I can say the Infradyne is all the early authors claimed it to be.

I don't know what they would say about my "low-loss" oscillator coil wrapped on a toilet-paper core treated with coil dope -- but it seems to do the job. If you care to build an Infradyne, review various issues of *RADIO* around 1925 and 26. Use modern resistors and capacitors with good tubes... and above all, follow the instructions explicitly.

In the bygone day of superhets beset by images and harmonics of longwave stations, oscillation, various noises, etc., surely, to my way of thinking, this set stood head-and-shoulders above them all.

OLD EQUIPMENT AWARDS

NATIONAL HISTORICAL RADIO CONFERENCE

EQUIPMENT

Ralph Williams
Committee Chairman

CLASS I CRYSTAL RECEIVERS

1st Alan Douglas (Scientific Amer. Multi. Tuner)
2nd John Williams (Fordham set in glass case)
3rd Mike Schaffer (Skyrad)
3rd Bruce Mager (Ceramic Bug)

CLASS II REGENERATIVE SETS

1st Ralph Muchow (DeForest 1919 regen. in case)
2nd Charles Bradley (Cutting & Washington)
3rd Lestor Raynor (Kennedy 281 w/521)
3rd Dick Schamberger (Tuska 950 / Fed. 8)
Special Award: Walter Smartt (Homebrew modul.)

CLASS III TRF RECEIVERS

1st Floyd Bennett (Federal Type 141)
2nd Gary Schneider (Standard Multivalve)
3rd Larry Wright (Golden Leutz Plio 6)
Special Award Charles Day (FADA)

CLASS IV SUPERHETERODYNES

1st Merrill Bancroft (AK Cathedral Mod. 90)
2nd John Adams (AK Cathedral Mod. 92)
3rd John Wiesner (Philco Mod. 84)

CLASS V ALL OTHER RECEIVERS

1st Jim Kreuzer (Mignon RW3 w/longwave unit)
2nd John Drake (DeForest Audio detector set)
3rd Larry Wright (John Firth component set)
Special Award Roger Rees (Amrad 3500-1)

CLASS VI TUBE TRANSMITTERS

1st and BEST OF SHOW Ralph Muchow
Adm. Byrd's original dogsled & aircraft transmitter & receiver used at South Pole w/pictures
2nd Lauren Peckham (G. E. 5 watt transmitter)
3rd Fran Thissee (REL low power transmitter)

CLASS 7 and 8 No entries.

CLASS VII and VIII (No entries)

CLASS IX TEST EQUIPMENT

1st Alan Douglas (1917 wavemeter built by R. Fowen, Chief Engineer, Deforest Radio Co.)
2nd Peter deAngelo (Weston port. electrodynamometer voltmeter)
3rd Ralph Muchow (Kolster Decremeter-Nesco)
3rd LarryWright (Kolster Decremeter-Firth Co.)

CLASS X LOOSE COUPLERS

1st Roger Rees (F. B. Chambers cir. 1914)
2nd Merrill Bancroft (Clapp-Eastham 4C)
3rd Floyd Bennett (Colby SW & LW tuner)

VACUUM TUBES

Lauren Peckham
Committee Chairman

CLASS I DE FOREST Tubes

1st Paul Corrette (Early de Forest CF-185
2nd Barney Wooters (CF-185 with 4-pin Shaw base)
3rd C. A. Trivette (Spherical Audion)

CLASS II MOORHEAD Tubes

1st Ed Sage (Moorhead SE-1444 used on 1919 trans-oceanic flight.)

CLASS III WESTERN ELECTRIC

1st Barney Wooters (Type K/202 trans. tube)
2nd Ernest Dawson (101F & 102F with data sheets)

CLASS IV GENERAL ELECTRIC WWI

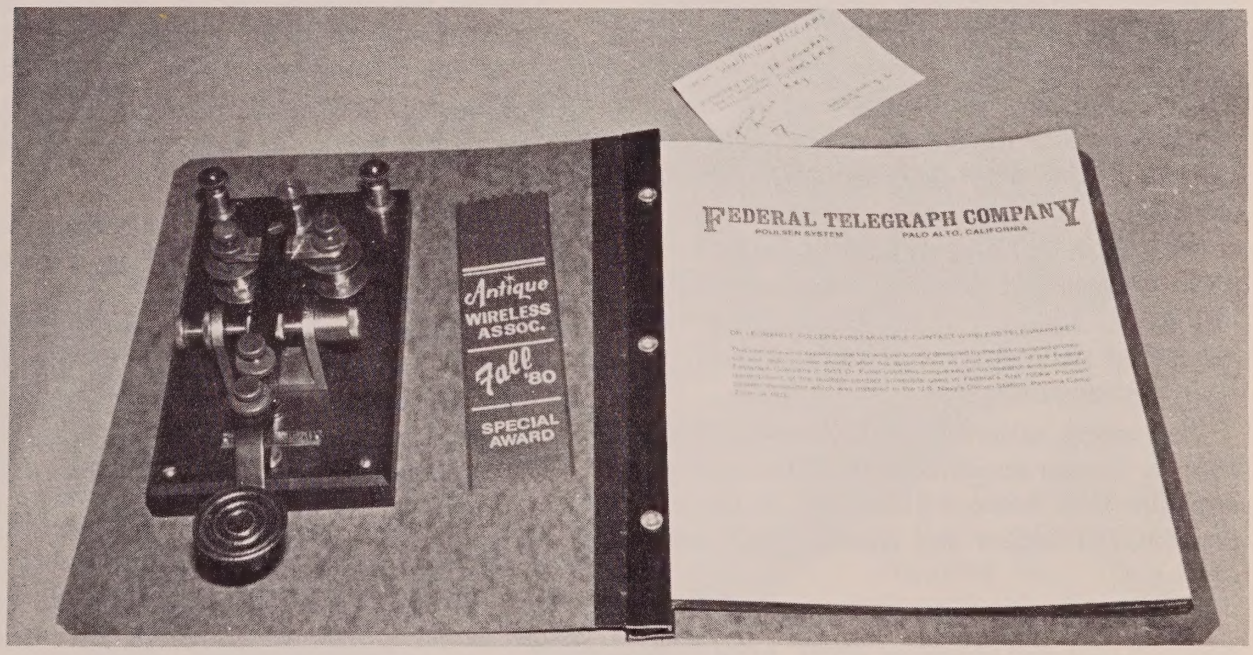
1st Dave Cleland (Type P in orig. shipping crate)
2nd Warren Green (CG-890 (Navy repalce. CG-886)

CLASS V RCA Tubes

1st Tex Sloat (Display from UV-200 to UX-250)
2nd Bob Millard (Samples of Westinghouse development with UX base design)

CLASS VI INDEPENDENT Companies

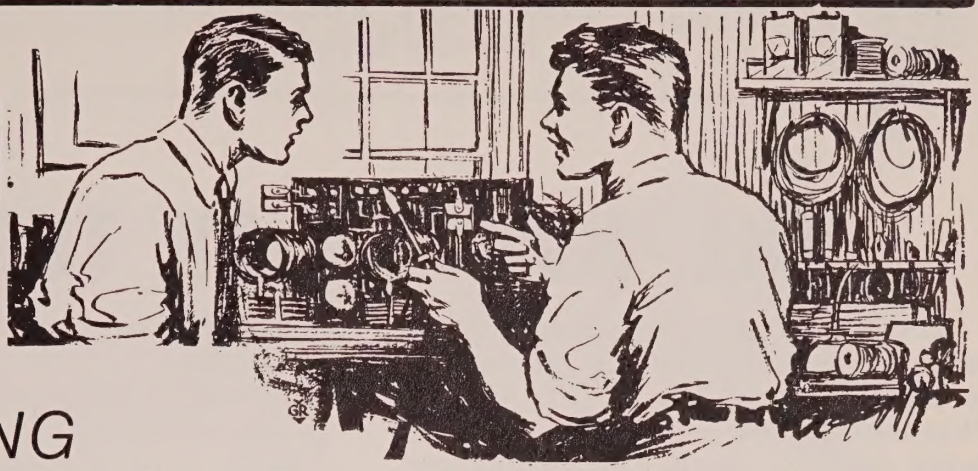
1st Ralph Muchow (Donle Type C)
2nd Ross Smith (Display of Perryman tubes)
3rd Barney Wooters (Audio Tron with paper)



GENERAL CLASS AWARD: Goes to John M. Williams for his entry of Dr. Leonard Fuller's lab key used during development of arc transmitters at Federal Telegraph Company.

WITH THE COLLECTORS

PROBLEM SOLVERS



CLEANING CONDENSERS

Like an old-time medical remedy, WB5NGF reminds us of a method used many years ago to clean a variable condenser (Dec. QST). Add a mixture of 1 to 2 of concentrated lemon juice (4 oz.) to water (8 oz.) in a pan and place over a fire. Let it boil for about 10 or 15 minutes... and presto,. the condenser will be clean between the plates and look like new. It also works with other metal objects.

Test Equipment

When that old tube checks OK in your tube-tester, but won't work in the set, try testing the tube in the same position it is when in the receiver. Tubes in some sets are mounted at an angle and the elements may "sag" causing a short or other inoperable condition.

---- Al Pratt

RESTORING OLD EQUIPMENT

Do you have an old Hallicrafter, Hammarlund, National or other piece of amateur/commercial equipment and need an operating manual and schematic ? A good source is "HI-INC"... They have thousands of manuals in stock. I have yet to be disappointed with service or price. They charge a nominal fee for their catalog. Write:

Hi-Inc., P.O. Box 864, 1601 Ave. D, Council Bluffs, Iowa 51501

----Ed Gable, K2MP

RESTORING AK BROWN

DuPont lucite spray enamel #2427-C (not "Fudge") is a very close match to several early Atwater-Kent panels and speakers. (Bill Shaw, W2HYN)

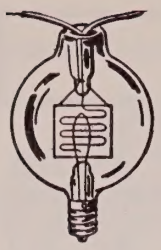
ILLINOIS CLUB

Rosemary Dittmer writes about a new club formed this past October. It is called the Antique Radio Club of Illinois. AWA wishes the new organization every success. One of their first moves was to make pioneer radio manufacturer (RME) and radio amateur Eric Shalkhauser (W9CI) a honorary member. Several activities are planned this year. AWA members in Illinois are encouraged to join. Write for details: Rosemary Dittmer, Sec'y
Rte. 2, Box 162A
Mundelein, Ill. 60060

WANTED

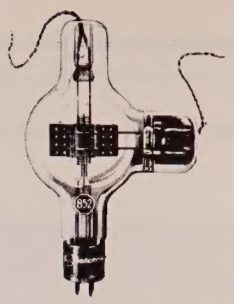
Original material for the Bulletin (no reprints from old magazines...) Do you specialize in collecting a certain type receiver or other historical equipment? Have you restored an old set recently ? Write and tell us about it. The AWA Bulletin is read worldwide by more radio historians than any other like publication. Share with us your experience. Write to A.W.A., Holcomb, N.Y. 14469

Omission: The report on Hughe's equipment (OTB 21-2-7) should have date 1922.



THE TUBE COLLECTOR

Conducted by Gerald Tyne



THE WUNDERLICH TUBE

The Wunderlich tube was the invent- of Norman B. Wunderlich and was marketed by Arcturus in 1932. The Wunderlich tube had two grids which were coplanar and is usually referred to as a "coplanar grid triode".

It was not the first coplanar grid triode, however. The first was made by Quirino Majorana of Rome. It was a modification of the de Forest Audion which had two inter-leaved grids.

Majorana called it an "Electronic Deviator". On Ocober 10, 1912 he applied for a German patent on this arrangement. The patent: D.R.P. Nr. 281014, Klasse 21a, Gruppe 70, was published on December 4, 1914.

The Wunderlich tube was of the indirectly heated cathode type and had the familiar Arcturus blue-glass envelope with a red plastic base. It was made in two types: one was equipped with a 2.5 volt heater at 1.0 amperes and mounted in a 5-pin UY type base with a top cap.

The other type had a 6.3 volt heater taking 0.4 amps and mounted in a 6-pin base.

The Wunderlich tube was intended primarily for use as a full-wave rectifier for grid-leak power detection. It operated in a balanced circuit in which negligible r.f. current flowed in the plate circuit.

The tube worked best at about 8.0 volts r.f. on the grids and was claimed to introduce less distortion and deliver twice the output voltage of the usual detector. It was expected that it would be capable of driving the audio output stage directly.

For further details, see "Radio Engineering" magazine, April 1932 and May 19 2. Additional information can be foun in "Radio News", July 1932. Apparently it had a short-lived popularity since it was seldom mentioned after 1932.

[Ed. note: The above writeup was found in AWA Tube File without author's name.]

CRAFTSMEN RECOGNIZED AT A.W.A. CONFERENCE

Two new categories with special awards were added to the Old Equipment Contest in 1980. These were the receiver craftsman class and the home-built transmitter class. The ELLE prize was awarded to the constructor of the best (old) complete operating receiver. The MATLACK prize was awarded to the builder (and user) of the best old time transmitter.

These two categories were included in the regular old time equipment judging, with special standards for evaluation and additional well qualified judges. The Elle Award went to Alan Douglas for his reproduction of the Scientific American Multiple Tuner crystal set.

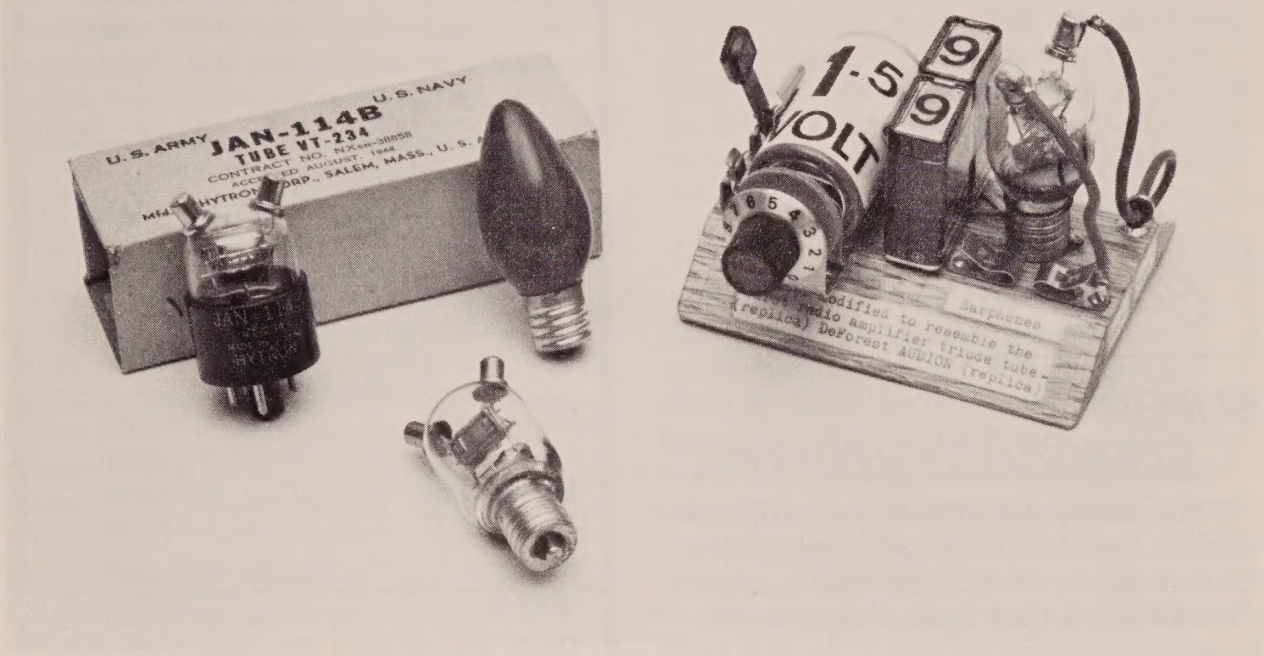
The Matlack Award was won by Bill Shaw, W2HYN, with his operating transmitter (59-210-211). Competitors in the Old Timers Transmitter Contest will remember hearing him.

Details for the requirements for these two awards have been described in the OTB. While a winner cannot re-enter in subsequent years, all other contestants, both old and new are welcome to enter this year. Let's get going on building those special receivers and transmitters.

--RalphWilliams (Chairman)

UNUSUAL EQUIPMENT

A REPLICA AUDION UNIT FOR DEMONSTRATION PURPOSES



Original HY-114B at left with C-9 Christmas tree bulb. The replica Audion in foreground center and working "Unit" at right.

Many years ago, while reading back issues of Radio News, I became fascinated with historical articles on the use of early vacuum tubes, particularly the original deForest Audion.

Even if obtainable today, I knew it would be impractical (and foolish) to use a rare original spherical Audion in any kind of circuit since they were selling for over $200. with good filaments.

Wanting to build and demonstrate a replica Audion circuit, I found a tube that had some resemblance: The Hytron HY-114B which was manufactured during the 1940's for portable military use. The tube had the plate and grid connections at the top as did the deForest Audion. Now to make the HY-114B look like this original

The first step was to give it a screw base. This was done by hacksawing three slits in the original bakelite octal shell and cracking it apart with a screwdriver while carefully preserving the filament wires. At this point the tube could serve as an unbased Audio Tron, but I wanted to go further.

I found the screw base of a C-9 Christmas tree bulb would ideally fit since it had a wide-flared skirt at the top which matched the un-based HY-114B. After connecting the filament wires, I cemented the screwbase to the tube with a cyanoacrylate adhesive (such as Eastman 910).

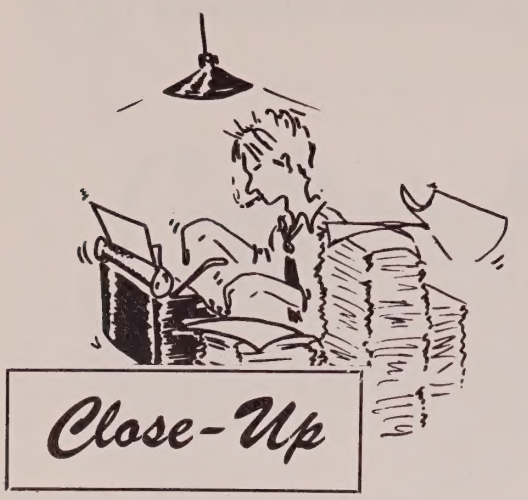
I then touched the top plate and grid connections with red and green paint (the original had red and green wires). I now had a replica Audion that I was not afraid to use for demonstration purposes. I might add that HY-114B tubes can still be found on the surplus market at a reasonable price.

To complete my old time project, I made a one-tube Audion Unit (see photograph) complete with batteries--a far distant cousin to the earlier RJ-4. One could build either old time RF or AF circuits around the unit. Ideally, the filament is only 1.5 volts for a Type "D" cell and works well with two 9.0 transistor radio batteries for the "B" supply.

The guiding inspiration for this project can be found in Tyne's "Saga", Fig. 4-14, 9-30 and 10-6.

Bob Ryan, Box 3039
Anahein, Calif. 92803

FROM HEADQUARTERS



SUPER SUPERHETERODYNE

While at my daughter's home in New Jersey last fall, I visited a neighbor, George Rose, of vacuum tube fame. George has a nice radio shack on the third floor where he has a variety of interesting things, but the one that caught my eye was a very early superheterodyne receiver. The oscillator/detector was behind one long panel and the IF/DET/AF behind another. I am prone to exaggerate, but the entire set appeared to be 8 feet long! Maybe George will send us a pix sometime for the OTB.

78'S BY THE POUND

On the same trip, I went into an old time phonographic shop in Boonton. In the midst of a large collection of Edison cylinder phonographs and morning glory horns (hanging from the ceiling), I saw stacks of 78 rpm records with a sign: "Records $1.50 per pound", the first time I have seen records sold by weight. Flipping through a few, I found nothing of interest. The better ones were selling for 50¢ and up.

All this surprised my daughter who in turn said she would like to buy a record player for old 78's. Easier said than done. New low-cost 78 turntables are almost extinct. 78's were phased out in the 50's. By the way, do you know the biggest all-time seller? If you guessed Bing Crosby's "White Christmas".... you're right. By 1975 the record had grossed over $100 million in sales (78's and LP's).

BACK ISSUES

Historical reference and good reading.....

The following OLD TIMERS BULLETINS remain in stock. Make out check to A.W.A. and mail to:

DEXTER DEELEY
8 Briar Circle
Rochester, N.Y. 14618

Vol. #	Vol. #	Vol. #	Vol. #
15 -1	17 -2	19 -4	21 -2
16 -2	~~17 -3~~	20 -2	21 -3
16 -2	18 -3	20-3	21 -4
16 -4	18 -4	21 -1	

$1.50 each ppd.

~~12 -1~~	14 -4	19 -1 w/mono.
~~13 -1~~	15 -2	19 -3 w/mono.
~~13 -2~~	~~15 -3~~	20 -1 w/mono.
13 -3	17 -1	20-4 w/mono.
~~14 -3~~	17 -4	

$2.00 each ppd.

Vol. #	
11 -3	$4.00 ea. ppd.
18 -1	

Vol. 1 #2 and #3 Reprints for reference: 50¢ each

AWA AUCTION SETS PACE

Our Auction Committee tells me they have one or two new rules to improve this year's Conference auction. In addition, buyers will have more time to look at prospective purchases. A good idea. These fellows give up an entire day of their time to this venture. This service is demanding and often taken for granted. The auction is a good show which benefits both members and the Museum Maintenance Fund. The event has gained national prestige as a price setter since the 1980 results were summarized in four (4) different collector papers!

ANOTHER LANDMARK MAY GO

By a 4-4 vote, the San Francisco Landmark Preservation Board refused to designate as a landmark the building where Philo Farnsworth did his early work. It is believed the first functional electronic television system was developed in the building.

[Cont. on next page]

Close-Up

THE WAY WE SEE IT

As a kid, I built quite a few broadcast receivers. It was the rule of thumb in those days to judge the capacity of a standard size variable tuning condenser by the number of plates. Here's a refresher:

7 plates: .00015 mfd. 23 plates: .0005
11 plates: .00025 mfd. 43 plates: .001
17 plates: .00035 mfd.

The standard condenser for most broadcast sets was either .00035 or .0005 mfd. (500 mmf.) and a 43-plater (.001 mfd.) for longwaves. This rule didn't hold true, of course, for smaller types. I was always partial to the small brass plate jobs made by Pilot in the late 20's and early 30's for shortwave receivers. They were compact, and the plates could be easily removed to reduce capacity.

On the subject of numbers, what was so magic about the .00025 grid condenser? Why couldn't it have been .0003 mfd. ? Or the 3 1/2:1 ratio audio transformer ? I am sure a 3:1 or 4:1 would work almost as well. Were they kidding us in the old days ?

OTHER COLLECTIBLES

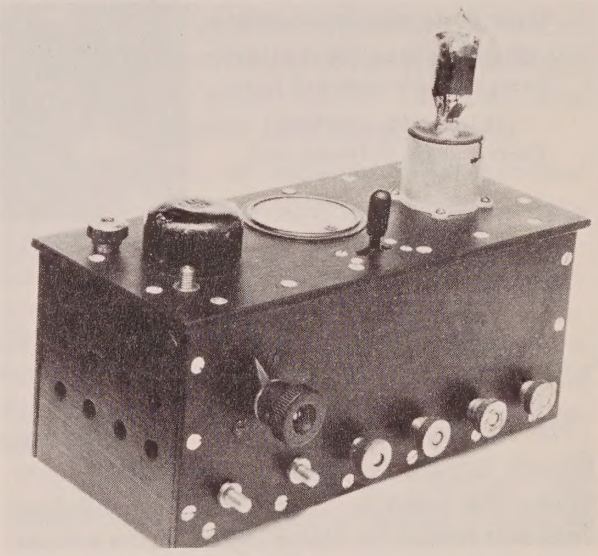
Mechanically operated slot machines (one-arm bandits) made before 1940 are at a premium. (Postwar models are mostly electrically operated.) Collectors are looking for machines made by Mills, Jennings and Columbia. 25¢ "slots" bring more money (not a pun) than 5¢ an 10¢ machines. Typical sales: $1800 for a Mills 5¢ console with four bells. $1700 for a Mills 5¢ Liberty Bells, $750 for a Mills 10¢ "slot". Can you remember police raids when machines where smashed with axes ?

---and CAMPAIGN BUTTONS are also a much sought after item. Few were seen in the last election and have little value, but some earlier buttons have sky-rocketed to over $2000. a piece!

The first large quantity of buttons was used in the 1896 Williams Jennings Bryan/William McKinley campaign and they have been distributed ever since. 1900 to 1930 were the peak years. The 1920 Democratic presidential button is rare since few were made --- the Cox-Roosevelt jugate sells for over $2000. each. The Roosevelt 1912 "Bull Moose" button is another valuable one. Use of campaign buttons is on the decline as a result of TV advertising and the 1971 Federal Act limiting campaign spending. In comparison, collecting old radios is relatively inexpensive.

WHICH WAS BEST?

Bill Taylor, an ardent shortwave listener, finds amateur receivers made just before and following the last war to be excellent for SWLing. I think most of us will agree....but has anyone made a serious technical comparison of the various models made by such firms as National, Hallicrafter, Hammarlund, etc. ? How about frequency spotting ? drift ?selectivity? What are your thoughts ? Bill would like to hear from you: Bill Taylor, Box 132, Unionville, Penna. 19375



WHAT IS IT?

The above unit was built as a replica. Outwardly, it is ready to go ---- but there isn't a thing within ! It was made by an old and well known eastern manufacturer. Anyone who can identify the unit and supply the schematic can have a WWI VT-2 tube in an un-opened sealed carton. Any ideas? If so, write:

Selwyn Blake Jr., K1CPW
186 Summer St., Andover, MA. 01810

73's until next issue.....

B. K.

WHAT TIME IS IT?

by Bob Cobaugh, W2AY, and Carl Zeigler

Checking time by radio goes back well before WWI when fame Naval station NAA at Arlington, Virginia, sent time signals. Commercial and amateur operators as well as jewelers set their time pieces to NAA's scheduled spark transmissions.

The demand for correct time availability continued. After the war it was no longer necessary to read code since many broadcast stations gave Naval Observatory time. Reproduced is a BCL card from old WGY (1923). Note the time schedules. A few broadcast stations still give time signals, particularly 12 noon.

charge was made for the service, as the operators read the clocks placed by their positions at the switchboard, making no connection to a central time bureau. On this date, the service was discontinued because of the wartime emergency. The number of calls handled daily in New York City alone, had reached the staggering total of 250,000. The handling of these calls required the use of a large amount of telephone equipment, at that time difficult to obtain because of the wartime shortage of raw materials. On August 15, 1928, the company resumed the time service, putting into effect a centralized time bureau. The time number

RADIO BROADCASTING STATION

WGY

SCHEDULE FOR JANUARY & FEBRUARY

MUSICAL PROGRAMS 370 *Meters*

Every Monday, Tuesday, Thursday and Friday afternoon 2:00 to 2:30; evening 7:45
Special late program Friday evenings at 10:30.

SUNDAY PROGRAMS
10:30 a.m. and 4:30 p.m.

CHILDREN'S STORIES
Every Friday evening at 6:30

WEEKLY HEALTH TALKS
Every Friday evening at 7:40

NEWS BULLETINS
Daily, except Saturday and Sunday, 6:15 p.m.

N. Y. STOCK EXCHANGE REPORTS
Daily, 12:30 p.m. except Sunday.
Daily, 6:00 p.m., except Saturday and Sunday

General Electric Company Band

U. S. NAVAL OBSERVATORY TIME SIGNALS
Daily, 11:55 a.m. and 9:55 p.m. Wednesday and Saturday, 11:55 a.m. only. No time signals Sunday

OFFICIAL WEATHER FORECAST
Daily, except Sunday, 12:45 p.m., on 485 meters

TIME REFERENCE
Eastern Standard. Changes in schedule announced by Radiophone

N. Y. PRODUCE MARKET REPORTS
Daily, except Saturday and Sunday, 12:30 and 6:00 p.m.

GENERAL ELECTRIC COMPANY, Schenectady, N. Y., U. S. A.

Naval Observatory time was also obtained through telegraph lines: in Western Union offices the familiar large wooden pendulum clock was pulsed by a time signal. Such a clock can be seen in the AWA Museum at East Bloomfield.

Exact Universal time can now be obtained by tuning in WWV at Boulder, Colorado, which transmits on 5.0, 10.0 and 15.0 mHz. Time is given every minute.

Getting the time through local telephone companies was one of the earliest methods of setting the kitchen clock. The New York Telephone Company is typical for a large city.

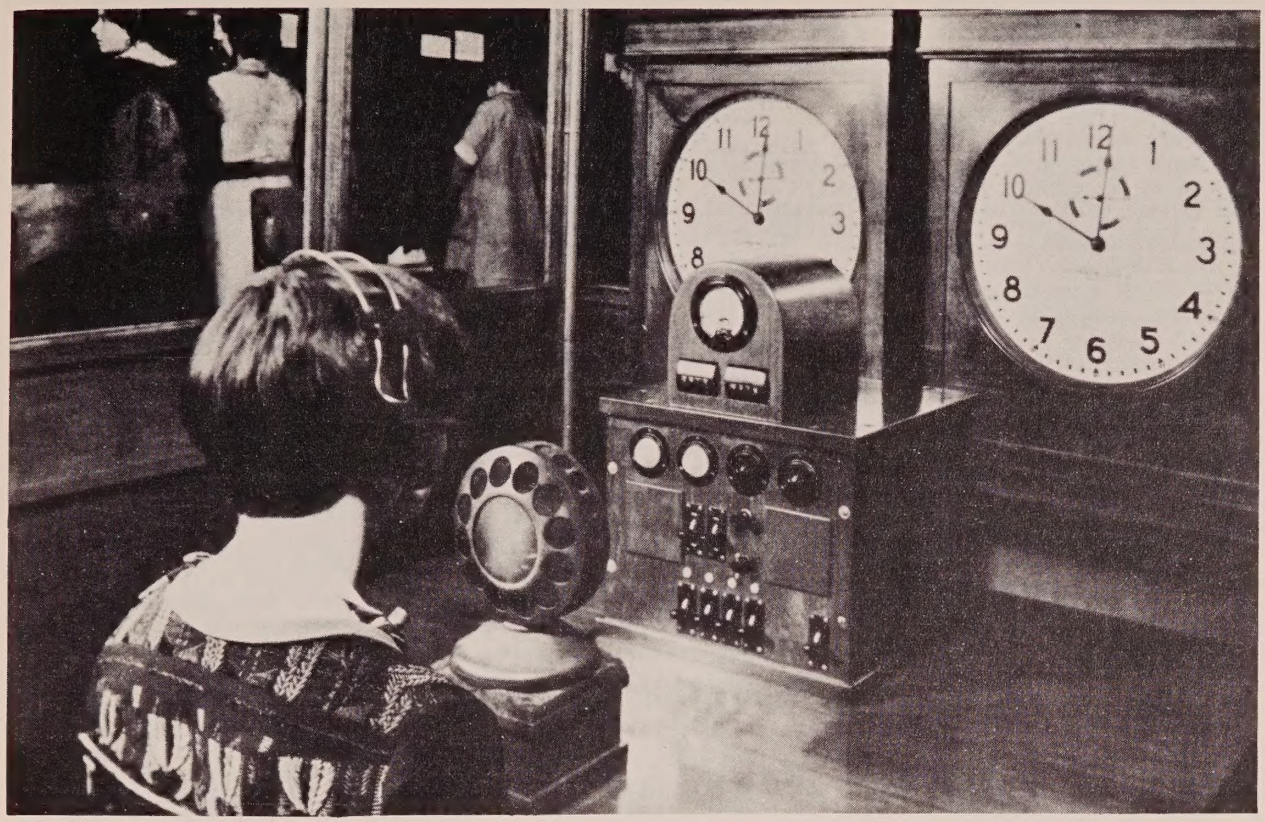
Until June 3, 1918, telephone subscribers served by New York Telephone could obtain the correct time by asking the operator. No

was Meridian 7-1212, and was available to everyone in Manhattan, Brooklyn and the Bronx. Calls to the time bureau were answered by operators who gave the correct time to the nearest half minute.

For this service, the customer was charged one message unit per call or a five-cent charge from pay phones. On the first day of this service, 10,246 calls were recorded.

From 1928 to 1952, specially trained operators would spend a half hour of their day giving the time reports. The operator sat before a time announcement console, which displayed the time in fifteen second steps.

At a predetermined interval, before each quarter minute change on the time indicator, a green light would go on and an audible tone



"Live" time announcements in New York (1928). Operator couldn't hear caller.

would sound in the operator's headset to warn her to begin her announcement --*"When you hear the signal, the time will be two-five and three quarters."* This was followed, exactly at the time announced, by the time signal.

The electronic master clocks on the wall before the operator's desk controlled the time registers on the console, and the time signal. The clocks were driven by a current whose constancy was assured by a "crystal clock" in the Bell Telephone Laboratories. The crystal clock employed four crystal oscillators of the same sort used to control the frequencies of radio broadcasting stations. The time given by these clocks was constantly checked against each other and compared with the time signal from the Naval Observatory in Washington, D.C. The frequency of the crystal clock was accurate to one part in ten million.

On May 22, 1951, New York Telephone introduced a new automatic Time of Day system. The correct time was given every ten seconds on recorded announcements. "Time operators" went back to their normal duties.

The new time system has continuous 24 hour announcements of the time at ten-second intervals. The automated announcements worked through the operation of three separate strips of film with voice recordings. The strips -- one for hours, one for minutes and one for seconds -- were mounted on cylindrical "mirrors," revolving at precisely coordinated speeds. At first the hour, then the minute, and then the second records were scanned by a narrow beam of light reflected into a photo-electric cell, they constructed a complete time announcement.

The machine itself kept the time, determined by the speed of the motor which depends on the driving frequency. That frequency was dependent on the "crystal clock" kept in a temperature-controlled chamber at Bell Laboratories. The clock was accurate to the millionth of a second, but was double checked daily with the time signal from the Naval Observatory at Washington, D.C.

In September, 1977 the *Time of Day* changed its number from Meridian 7-1212 to 936-1616. The new equipment giving the time announcement was in the telephone company's offices on East 38th Street. Announcements were produced by magnetic drum recordings announcing the time continuously 24 hours a day, seven days a week. The system had two identical units so there was no chance for the service to be off-line.

The new "Speaking Clocks" ran on precision oscillators which were accurate to ± one second per year. The system was compared regularly with the National Bureau of Standards radio station originating in Boulder, Colorado.

OLD TYME HAM ADS

OLD TYME ADS are FREE to members interested in collecting and restoring historical equipment as a hobby. They are not to be abused.

RULES FOR ADS:

1. Ad MUST be written on separate sheet of paper--not part of letter. Send SASE for acknowledgement.
2. Material must be over 25 years old and related to radio or electricity.
3. Give full address and Zip#.
4. AWA will not print repetitious ads or ones indicating regular sale for profit.
5. The Association is NOT responsible for any transaction.
6. AWA retains the right to reduce size of ad if over 8 lines including address.
7. Only ONE ad per issue per member.
8. Deadline for ads is 6 weeks prior to mailing date:

March issue -- JAN. 15
June issue --- APR. 15
Sept. issue -- JULY 15
Dec. issue -- OCT. 15

Important ! To insure delivery, out-of-state mail should be sent one week PRIOR to dates noted above.

Mail all ads to:

RICHARD RANSLEY
17 SHERIDAN ST.
AUBURN,N.Y. 13021

WANTED

--crystal detector assembly for Federal Jr. Al Jochem, 2047 College Ave.,Quency,Ill. 62301

--Philco sales brochures,catalogs,factory service info, etc. pertinent to Philco history needed for MBA thesis on Philco. Want Philco inclined sounding board consoles,x-type '32-'38. John P. Wolkonowicz,11 Hartford Road,Worcester,MA 01606

--BYPCO 1922 3-tube set. Who has seen a Paragon RA-6 with 'Adams-Morgan' on panel? Need info for history article. Alan Douglas,Box 225,Pocasset,MA 02559

--power supply/amp for Scott AM Phamtom Deluxe;Scott Super XII, Masterpiece or Model 16-18 radios.Wish to purchase Edison Long Playing Diamond Disc records.State price. George Harris, 3212 36th St.,Lubbic,TX 79413

--six WD11 tubes in working condition. C.E. Peterson,RD3, Syracuse,NY 13215

--information on radio chassis number for Mickey Mouse Emerson radio in wooden case 6 1/8 x 6 1/8 x 4 5/8. I. Fothe, 10 Jackson St.,Sloatsburg,NY 10974

WANTED

--Hallicrafters S38C in mint condition inside and outside, with manual if possible. Gerald Lackey,27100 Chardon Rd. Richmond Hts.,Ohio 44143

--info on Clearco Crystal Set Company of Milwaukee. Made kits and parts in 50's.Need catalogs,etc. Richard Korf, PO Box 291, Grand Marais, MN 55604

--old microphones,pre 1940 for my microphone museum.Have many early radios to trade for the right microphones.Bob Paquette, 107 E. Mational Ave,Milwaukee, Wis. 53204

--Radio Boys,Radio Girls,other juvenile radio fiction. Especially need Radio Detectives by Verrill,Radio Boys to the Rescue by Chapman.Have dupes to swap. J.A.Maxwell,W6CF, PO Box 473,Redwood Estates,CA 95044

--dial scale-clean and readable for Radiola 18 tuning condenser drum. Gordon Eklund, 6518 Gunpowder Lane,Prospect,KY 40059

--cabinet for AH-20,large or small. John Uscinowski, KE2O, RR#1Box 379, Greenwich,NY 12834

--ARRL 4th edition handbook & QST's prior to 1922 for cash. Ken Miller, K6IR, 16904 George Washington Dr.,Rockville,MD 20853 Tel. (301) 774-7709

--Paragon DA-2 junker/innards, Kennedy 311 portable cabinet or pattern,Rola,Utah,Peerless, Perfectone spkr horns only, Webster 70B eliminator,Crosley 2 stage amp.Rick & Jeanie Ammon 2306 Covert, Evansville, Ind. 47714

--museum/collection being reopened by disabled collector. Would appreciate hearing from those with gear available.Send lists/offers to: Jack Allison, Wireless Museum of Long Island, 160 S. Country Rd, E. Patchouge, NY 11772

--Wireless Age Mag. Oct. 1921, Aug,Sept,Oct '22,Feb,June,Sept of '23,June '24,May '25,July of '25.Have many '20 to '29 Radio News to trade for one or more. Paul Thompson,2930 De La Vina St.,Santa Barbara, Calif. 93105

--cabinet for Zenith 27,28 or 29;power supply battery compartment doors for Super Zenith. Maurice Murray, RR 2, Mt.Vernon Ind. 47620

--metal box Crosleys:Jewelbox, Bandbox Jr., and 26-H.Also need ugly 'New Buddy' table model and Crosleys of the 30's.Please help! Dave Crocker,Tavern Path, Plymouth, Mass. 02360

--early keys and bugs.Have for trade Kennedy 6,Marconi 220, Scott AW-15 & Scott 510. Carl Elkins, AI4P, 1701 Woodland St. Nashville,TN 37206,Telephone (615) 227-7972

WANTED

--Catholic Hour broadcasts by Archbishop Fulton Sheen 1930-52 & any other Sheen materials. Rev.Jasper Pennington,Sheen Archives,St. Bernard's Seminary,2260 Lake Ave,Rochester,NY 14612 (716) 458-1763

--$ 30 reward for xerox or orig of manual for solid state Air Force classic test unit VLF Sig. Simulator (AF Contract #9603-69C-0571,Pt #11045) H. Layer, AV-SFSU,1600 Holloway St.,San Francisco, CA 94132

--old large meters; one 0 to 150 VDC,one 0 to 100 amps.Also one large two pole knife swicth & four smaller ones.Restoring mill dam & generator.Lloyd C. Greene,Jr.,The Millstream, Chelmsfor, Mass. 01824

--need manual for Precision tube tester Model 10-40. P. Cadrecha,292 S. Prospect St. Burlington, VT 05401

--Hallicrafter recvrs with 'silver' panels and/or backlighted 'airplane' type dials in any condition.Also HT-1,2, 3,6,8 and others. Chuck Dachis, WD5EOG, 4500 Russell Drive, Austin, Texas 78745

--Kennedy,Grebe,AMRAD & Paragon radios.Will pay good price for early sets which I don't have. Larry Babcock, 8095 Centre Lane, E.Amherst,NY 14051 (716) 741-3082

--mirror in the lid & other pre 1946 television sets,parts, literature wanted.Especially looking for RCA TRK-5,#359 test set to complete RCA collection. Arnold Chase,9 Rushleigh Road, W.Hartford,CT 06117 Telephone (203) 521-5280

--manual,original or copy or wiring diagram for Precision ES-500A oscilloscope. Forrest Baker,1558 W.Garfield,Davenport,Iowa 52804

--table model cabinet and knobs for Philco Model 620,70,16B, 118B,650,116.State price and Condition. H.F. Schnur, 115 Intercept Ave.,N. Charleston, SC 29405

--Paragon DA-2 in any condition also Federal 110 parts set, Rider's Battery Radio Circuit book,AK breadboard potentiometer,VT-1 tubes. Rick Weibezahl, 305 Belvidere Ave.,Washington, NJ 07882

--grandfather clock radios,also cathedrals & pole leg radios with clocks ('31-32).Will buy or trade for them.Looking for brochures,etc. on clock radios. Karl W. Manthei,833 Church St. S.W.,N. Canton,OH 44720

--cabinet for a Freed-Eisemann Model 40 TRF. Daniel Gaidosz, 342 West River Road, Orange, Conn. 06477

WANTED

--Raven radios,parts or literature,Navy SE 1071 detector, Radiola VII. Cash,trade or correspond. Rich Wolven, 25 Woodlawn Ave., Albany, New York 12208

--Microphones-RCA 3 or 4 (box condenser),RCA 50,W-E 47 and W-E 632.Cash or trade. James Steele, 178 East 80th St., New York, NY 10021

--Tuska 225 parts,RADA transformer,AK 82 cabinet,AK 387, Philco 16B(1933) cabinet,50A1 tube. Send me your wants. Merrill Bancroft, 169 S. Row Road, Townsend, Mass. 01469

--wiring diagrams for 1941 Zenith #7S657R & 1940 RCA mod. #29K, both cathedral superhets. Glad to pay for copy & mailing. E.D. Armstrong,139 Meadowbrook Court, Newfield, NY 14867

--Scott Philharmonic any condx, w/wo cabinet,2 HF spkrs for '37 Philharmonic,Brush crystal headphones.Have Scott Phantom Deluxe in Sheraton cabinet for $325 or will trade for above with cash adj.Peter Best,Box59, Bridgewater Corners,VT 05035

--operating instructions for Radiola 24 & Radiola II.Also horn for AK type M driver,driver for Radiola 24 horn.Have Radiola UZ1325 horn to trade. Jerald Hueber,6316 Winnebago Court, Ft. Wayne, IN 46815

--Regency transistor radio, vintage 1954.Crosley Pup.Philmore crystal set.Audio transformers for Grebe CR-9. Don Erickson,40 Ridge Rd., Glen Rock, NJ 07452 (201) 445-1245

--Brush Crystal headphones model BJ or BA-200-1. John Shiels,3212 Chestnut Street, Murrysville,PA 15668

--books by Bucher on vacuum tubes & wireless telegraphy. Also books on zeppelins & dirigibles.Send info & price. Morris O'Brien,5 Edgar Road, San Remo, 3925, Victoria, Australia

--cabinet for Radiola Grand. Please state condition and price. M. Ruggere, 504 Grill Ave., Shillington,PA 19607

--AK chassis model 206,376,145 or 325.Dial for Philco 37-84. Escutcheons for General Motors Little General Mod 110. Frank Heathcote, 1235 N. Third St., Logansport, IN 46947

--Mogul socket for Tungar bulb, ckt diagram for Fada 195A,outer 2 inch removable knob for 4" black bakelite vernier dial used on 195A. R.A. Lindsay, 901 Ferngrove,Cupertino,Calif., 95014

--Western Electric parts; ant. tuner dial,knob,nameplate for 2B ant tuner.Both var. condensers with vernier dial,knobs, nameplate for 4D recvr. Three original tube sockets for 7A amp. Bob Goodman,7943 Ponce, Canoga Park,CA 91304

WANTED

--Knight-Kit one transistor broadcast band receiver sold by Allied Radio during the mid-'50s built on a printed circuit board with four porcelin feet. Jerry Cotten,308 Brandywine Rd., Chapel Hill,NC 27514

--copy of CANDLER SYSTEM-Book of Facts. Bill Willmot,K4TF, 1630 Venus Street,Merrit Island, Fla. 32952

--early brass blade table fans and any odd or unusual fans, also cathedrals and AC sets especially decorative wood cabinet types and art deco. Richard Cane,8391 N.W. 21st St.,Sunrise, Fla. 33322

--information/schematic wanted for R&R Powerizer with ABC current supply with one stage power Amp,mfg by Radio Receptor Corp. Model PXY1;Volume control for AK-10. Paul Newcomer,W8JDC, 32610 Sandra Lane,Westland, Mich. 48185

--operating/service manual info on following equipment: Hammarlund SP600-VLF,Browning Electronic Labratories WWV Standard Freq calibrator Model RM-10. Clive G. Taylor,VE3CL,99 Huron St.,London,Ontario N6A 2H9

--Knobs for RCA T4-8A & Zenith J402-R, ACE receiver by Harry Alter Co. of Chicago,Manuals for Crosley 5-38 & Collins 310B exciter.Also,how did the factory tune coils for HRO 50 ? Scott Todd,2911 Simpson St., St. Paul, MN 55113 612-633-4458

--AK parts- 60 chassis,keil table door knob,185 knobs,spkr for 72 & 856,Crosley book condenser,Sodion D-11 Amp. unit, Crosley & Motorola service manuals.Alvin Heckard,RD1,Box 88, Lewistown,PA 17044

--electrical meters-radio,telephone,telegraph,power & scientific inst. before 1920.Need info on early history of Weston Co.Info will be returned & acknowledged for OTB article. L.W. Cartwright,21686 Noonan Ct.,Cupertino,CA 95014

--AK breadboard,Model 9.State condition and price. James Nothris, 1100 Welsh Road, Ambler,PA 19002 (215) 646-3631

--Kennedy 110,220 & Amps,early Federals,Zeniths,DeForest,Paragon,Mignon,Marconi,Grebes, Radiola I,VI,VII & wireless gear wanted to upgrade collection. Bob Avery,3712 Glorieta N.E.,Albuquerque,NM 87111

--Scott power/amp/speaker for All wave. EZ tune 4" dial. Buy or trade SW-3 coils. Larry Rosine, 4229 Weat 98th St., Overland Park,KS 66207

--front panel for Pilot AC Super Wasp,coils or coil forms for Super Wasp,turns data for Super Wasp coils. Have mint front panel for DC Super Wasp & vernier dial for trade or sale. William Hurni,329 Evergreen Dr, North Wales,PA 19454

WANTED

--horn reproducers-AK's and Stromberg-Carlson.Also spark gap xfmr and pre-1940 broadcasting microphones. Send SASE to C.G.J. Golodich,23 Benson St., W. Haverstraw,NY 10993

--Hallicrafter S-38E,NC-57 must be in near mint condition. William Hemrick, Route 1, Terra Alta, West Va. 26764

--tube adapters for using UX tubes in UV sockets,tube reconditioner,Edison type 100V 'B' battery w/91 glass cells with case & volt. selector. Bob Puopolo, 2 Alexander Dr., West Haven, CT 06516

--detailed sketch to make cover for UV886 for Radiola 32.Brown covered wire for Radiola VIII loop antenna,Radiola 18 brass dial lite cover. Frank Puopolo, 2 Alexander Dr., West Haven, CT 06516

--need for Grebe CR-12; Primary wavelength variometer,outer fine tuning edge control knob,fil. rehostats & switches,audio xfmr, cabinet & any info.(have ckt.) Maurice Green, 9 Latchford Rd., Gayton Wirral,Merseyside, England L60 3RN

Important

New address for OTB ADS:
Send all mail to Secretary/
Asst. Editor: Richard Ransley
17 Sheridan St., Auburn,
N.Y. 13021

--cabinet for a Radiola II, large GE intensity knob for same.Any info on Paragon type Three,original style headphone and speaker cords,speaker grill cloth for RCA 100. John Pisarski 114 Evans Rd.,Norristown, PA, 19403

--need two 5 prong plug-in coils for the Pilot Superwasp battery radio & similar coil for a Remler Model 505. Bill Hennen, 324 Forest Ave.,Aurora, IL 60505

--celluloid dials w/kc markings for 3 bands for Philco model 610,620.Also band change knob. Lee Kemp RFD Box 15, Fredrick, MD 21701 (301) 662-3482

--AK console chassis model 55 or 60 working or not.Pwr xfmr for Sparton 930E console (pri. 115V,secondaries are 5VCT, 600VCT,5VCT,3VCT. John Bayusik, 178 East Side Drive,Wallingford, Conn. 06992

FOR SALE and/or TRADE

--Rider's manuals,Supreme manuals,tubes & parts.Send SASE for list. Charles A. Days, P.O. Box 205, S. Dartmouth, Mass. 02748

--Kennedy 281,early Crosley Trirdyn,BC-144 Receiver,Wireless Age mags,'30s tubes.Stamp, post card or SASE for info. Charles Closson,1290 Glenwood Ave.,San Jose,CA 95125

Meet the Collectors

by RODRIGUES

"Watch him offer me two bucks for that old radio....."

FOR SALE/TRADE

--Atwater Kent,RCA,etc. test gear,speakers.Send SASE for a list. Gary O'Rourke,6535 Placid Ct.,Clankston, Mich. 48016 Tel. (313) 625-9019

--huge variocoupler 9"diam. by 11" High,Philco Model 70 chassis only,parts for Brunswick 15 and AK 20,35 & 40.SX-43 Hallicrafter,and more.Need DB-20 carbon mike of '20s.SASE for list and details.E.T. Montgomery, 1092 Willowbranch Ave.,Jacksonville,Fla. 32205

--hundreds of tubes-75¢ each, radios, parts, related items. SASE for list.Want tuning condenser for Crosley Showbox 706, loop for Radiola 28,old style spkr cloth & power cord. Bruce Harbeck, 1316 38th St., Sioux City, Iowa 51104

--AK sets,AK parts,tubes,test equip.,Rider's,RCA,Zenith,Philco service manuals,sets plus more. Send 50¢ w/large SASE w/30¢ stamps for list #3-81. Krantz,100 Osage Ave., Somerdale,NJ 08083

--Boston marble base key, DeForest double wing spherical audion and panel mount brass socket,tubes, earphones,parts, mags.,radios.SASE for list. Harry Cap,190 Beach St., Bridgewater, Mass.,02324 Tel. (617) 697-8648

--DeForest DV2 & DV5 $10 ea., have many makes of good 01A tubes also $5 ea,Hallicrafters SX-28 $45. Robert Ireland, RFD 4 Box 140,Pleasant Valley, NY 12569

--swap Silver Marshal Around the World Four (mint) for a National SW4,3 tube screen grid National or Pilot Wasp 3 tube. L.P. Rayner 5512 N. 71st Place, Scottsdale, Ariz. 85253

--AK breadboards,cathedral sets,early '20s battery sets, horns,two Grebe CR 9 sets,Zenith Super VIII and much more. Send $1 for list. C.A. Seidel, 925 Starlite,Grants Pass,OR 97526 Tel. (503) 476-1078

--RCA Radiola Grand,1922,in fine condition, w/o WD11's.Has replacement front grill & not restored. $325.Bob Harris, 3456 Lake Lansing Rd., East Lansing,MI 48823 Telephone (517) 332-2693 evenings

--National RCK,Scott RCK,'39& '40 Scotts,'36 Midwest Royale, '35 National HRO,2.5V tubes & in original condition with spkr and coils,best offer over $200. Also RCA AR88LF,CR91,TMC GPR90. Jack Rhodes,2700 Burdick Ave., Victoria,BC,Canada,V8R 3L9

--1941 RCA receiver with four bands 15-600kc,preselector,RPU supply $200.,Esco MG $125.Send SASE for list of old telegraph instruments,tube testers,tubes, battery sets.Trade WD11 adaptor 864 combo for AK breadboard.Don Whittemore,36 Masterton Rd., Bronxville,NY 10708

--QST's Apl '22 thru '68 with eight missing during '40s.Also type C Baldwin phones and books 1917-1922 and other oldies. George Holland,KB2LS, 5351 Walworth Road,Ontario,NY 14519 Tel. (315) 524-6205

--Crosley 51 in very good original condition.Set works. $80. without tubes. Want exact reproduction label for Aeriola Jr crystal set.Philip Drexler, 1175 E. Ripley Ave.,Maplewood, Minn. 55109

--swap amateur letterpress printer that will print QSLs in exchange for old radio gear, parts,books,etc. V.A. Weiss, WA9VLK,533 S. Lincoln Ave., Kankakee, Ill. 60901 Telephone (815) 939-0036

--Majestic Model 776 console, complete,good but non-working condition.Fine cabinet.Prefer to trade for cathedral. R. Sanderson,916 Anchor St., Billings, Montana 59101

--reprint labels for Aeriola SR Type RF lid. Exact duplicates, orange & Black on good quality coated paper. $3.95 each postpaid. William Heck,470 E. Idaho Ave.,St. Paul, MN 55101

--L&N galvanometer(meter only), R-3 Magnavox coil cover & xfmr cover,Kemper 'Radiomobile' 1927 radio,Rola pedestal spkr,Radio News Mags,Radiola 20. Send SASE for listing. F.A. Paul,1545 Raymond, Glendale,CA 91201

--trade 1920 QST w/o cover Aug & Dec. Want Feb.,Mar.,Apl.,May, Jul.,Sept.,Oct. of 1920 and before Dec. '19.Have other 1921 issues to trade.Write needs. Bob May,K4SE,Box 30, Jonesboro, TN 37659

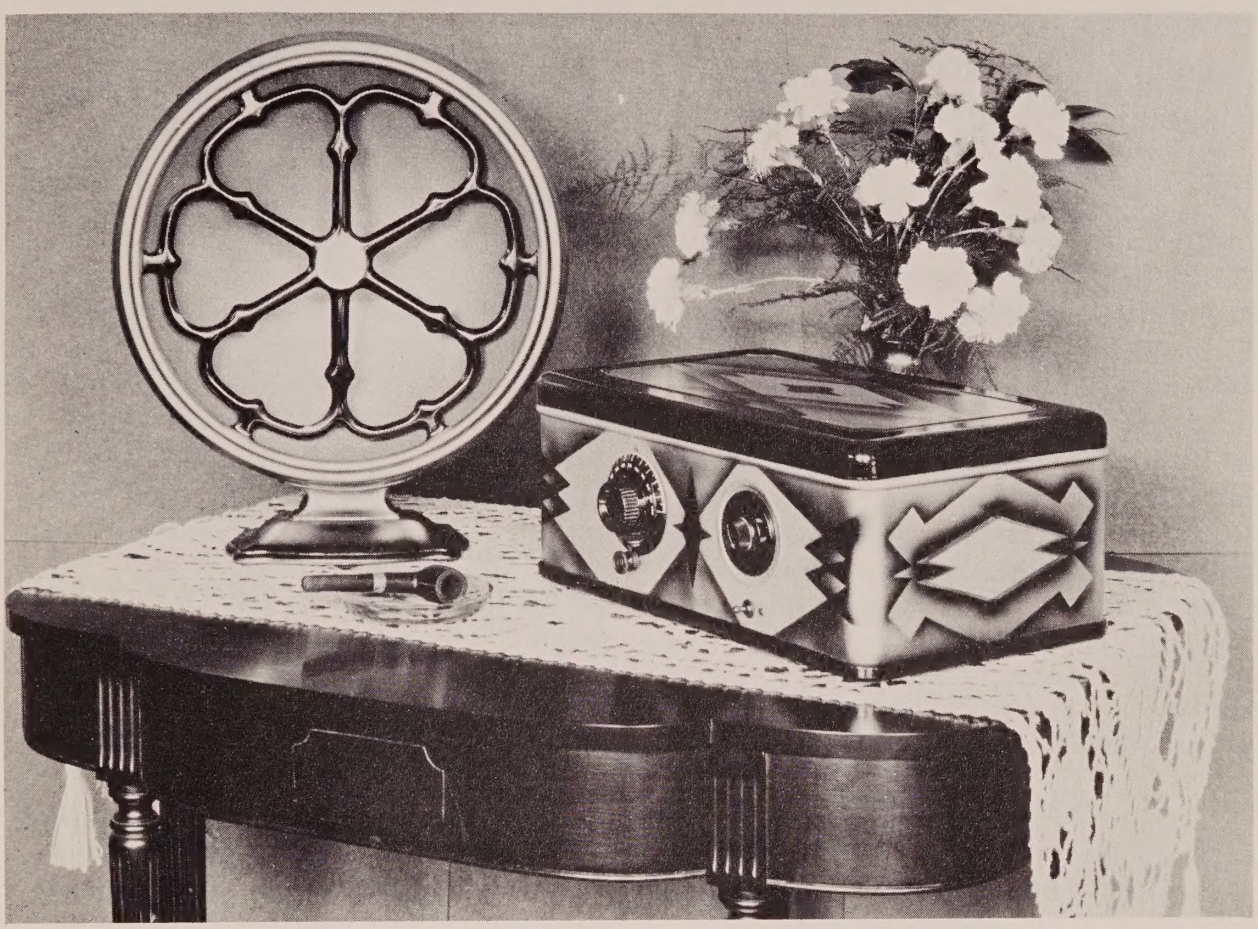
--Maico ear tester,Model 833A; RCA power & filament transformers and reactors; 3500 tubes. SASE for list. Jack Nelson, W2FW, 915 Sherman St., Rotterdam, New York 12303

--Hammarlund HQ129-X mint condition w/original manual & spkr. Prefer not to ship.Will deliver 75 miles. $200. J. Kugler, 7 Brookside Dr., Port Washington,NY 11050

--7" Crosley Model 9-425 portable tv. $50. J. Wasiewicz, 229 Sarles Lane, Pleasantville, NY 10570

--Rider's volume 6-15. $8. ea. in lots of four or more.A.Smith, Stonehedge, Lincoln,MA 01773 Tel. (617) 259-9351

--tubes new and used for early electric sets.SASE for free price list. Sam Faust,P.O.Box 94,Changewater,NJ 07831



CLOTHES DON'T MAKE THE MAN – NOR DECORATION HIDE THE RADIO

by RALPH WILLIAMS, N3VT

Among today's collectors, opinions could divide sharply over the radio in the picture. What brand and model? Is it factory? Has it been altered? What happened to the paint? Is the set significant?

The set appears to be an Art Deco version of the Atwater Kent Model 37. The decoration is a powerful example to the 1920-1930 style that combined the impressionism of fine arts with the decorative requirements of industry.

The name Art Deco derives from the 1925 Paris Exhibition *"L'Exposition Internationale des Arts Decoratifs et Industriels Modernes"*. The Model 37 was introduced in the 1927-28 winter season, right at the high point of the Art Deco period. With its bathtub shape, the container was an ideal candidate for this popular artistic treatment.

The characteristic AK marker (the ship on the cover, the four corner escutcheon pins, and the medallion on the 15" Model E loudspeaker) appear to have been removed before painting. Perhaps the set was obtained, unpainted, from the factory. The decoration was probably done with stencil and airbrush.

The blocks on the side, top, and front of the box and the cone of the speaker show a light base color. With masking by the stencil, other coats were added using the shading technique that was immortalized in the Petty and Varga drawings that came along later.

Art Deco was geometric in its style, reflecting Cubism and Expressionism, but also revealing some of its ancient influence, Egyptian and Persian art. The artist who decorated this set used geometric patterns to convey the feeling of tiger stripes and emphasized the impression of animal strenght by making the dials and a dark diamond shape between them suggest a face. Art Deco could create very strong images; in this case, a radio of animate performance and power.

Would you have this set in your collection? I wish it were in mine!

On Review

'THE SECRET WAR'

A Book Review by W9IWI

Go to your public library and borrow a copy of *"The Secret War"* by Brian Johnson, published by Methuen (New York) in 1978. Open it to page 25 and what do you see? A picture of a Hallicrafters S-27, resplendent in all of its 1940-vintage black crackle glory.

The photo was included to illustrate the type of VHF receiver which the Royal Air Force had to acquire in a hurry during World War II to track down a then-new German radio beam target locator system. Rumor was that an RAF officer bought out the entire S-27 supply of a big radio dealer in London...on credit! There was a lot of makeshift in those days, and the Hallicrafters was probably one of the better pieces of equipment for anything above 10 meters.

"*The Secret War*" is about the "back room" conflict -- the war waged by scientists on both sides to provide the troops with gadgets to supplement more conventional weaponry.

Radio location gear, radar and sonar are covered in depth (a pun, naturally); buzz-bombs and rockets get more space than I found interesting; data on code and cipher machines was a disappointment in that I did not see described a device that I played with in 1943-44 (the book is about the *British* military); information on jet aircraft reveals that we all were further advanced in this area during WWII than most people realized we were.

There are numerous reference to radio hams and their part in testing the gear that the "*boffins*" (British slang for scientists) put together in their labs. The scientists proved to be hams themselves in their approach to many of the problems they faced.

[On Review]

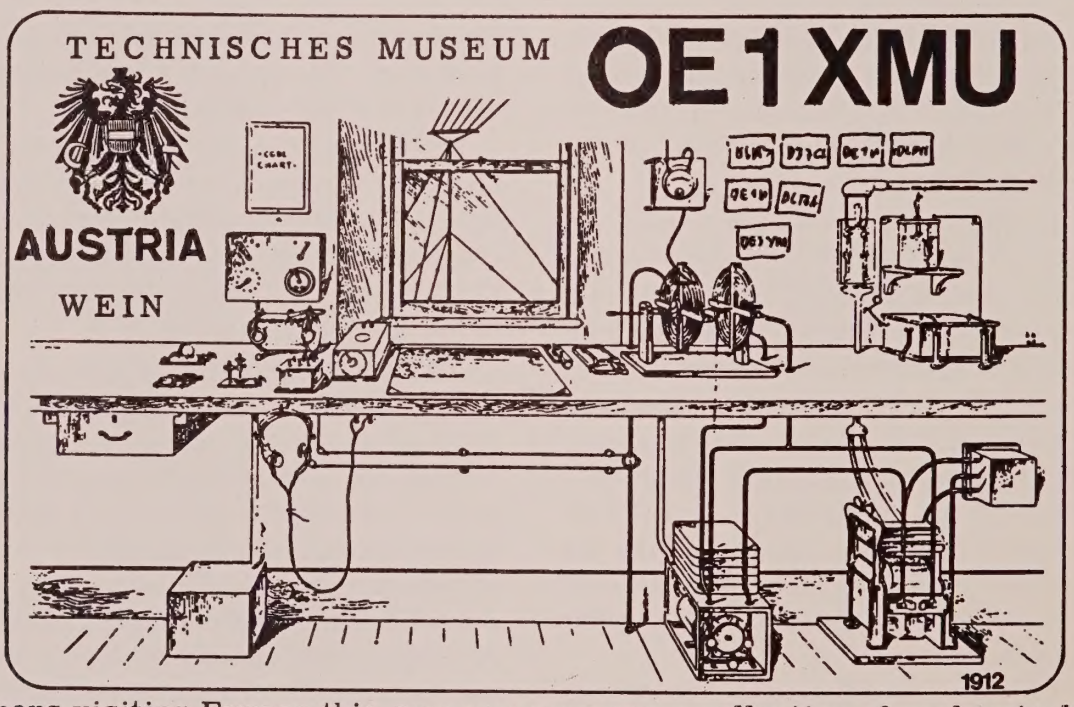
EARLY WAVE DETECTORS

by Vivian Phillips

An in-depth study on the development and use of early detectors covering such devices as the Hertz resonator, Branley's coherer, the imperfect contact detector, electrolytic and others. An interesting book for the advanced historian except possibly the price: $42.75

---Bob Ryan

[Available from IEEE Service Center, 445 Hoes Lane, Piscataway, N.J. 08854]



Members visiting Europe this summer may see a collection of early wireless equipment at the "Museum of Industry & Technology" in Vienna, Austria. The above card is from the Museum's Amateur Radio Station OE1XMU.

BOOK & MAGAZINE REVIEWS

MAN OF HIGH FIDELITY

EDWIN HOWARD ARMSTRONG

by Lawrence Lessing

This out-of-print book is now available through AWA in paperback form. The biography of the world's greatest radio inventor from birth to tragic death, it is also the story of radio and the intrigue accompanying its commercialization.

Armstrong perfected and is credited with the development of the regenative circuit, super-regeneration, the superheterodyne and frequency modulation (FM). A fascinating book every radio historian/collector should read, it also makes a fine gift.

AWA is indebted to the Armstrong Memorial Foundation for the books. Quantity is limited. Cost: $1.25 at Museum store or by mail with 50¢ handling/mailing. Send check for $1.75 to *AWA MUSEUM FUND* and mail to:

Dexter Deeley, 8 Briar Circle
Rochester, NY 14618

It is the story of a man's unshakable determination to discover the secret of perfect sound, and once invented, to have it used. And it is the startling revelation of a broadcasting company's challenge to the inventor's right to the rewards of his own invention.

A LANDMARK BOOK ON MILITARY RADIO

Probably the finest, most documented book ever written on Navy radio has just been published by the Naval Research Laboratories. It is Louis A. Gebhard's "Evolution of Naval Radio-Electronics and Contributions of the Naval Research Laboratory"(NRL).

Dr. Gebhard obtained his operator's license in 1913 and joined the NRL in 1923. So his fascinating history is a first-hand account of Navy VLF-SHF radio research and development.

Separate chapters cover the evolution since 1900 of communication, radar, missile guidance, IFF, navigation, electronic counter-measures, precision time measurement, tactical systems and satellite electronics.

Hundreds of NRL "firsts" in the history of radio and electronics are documented in this large 448-page book with over 300 illustrations. Dozens of prototype and classic Navy equipment are shown, along with hundreds of references.

For the military radio historian and collector, this book is a must alongside L. S. Howeth's "History of Communication--Electronics in the U. S. Navy"(USPGO: 1963) and M. McMahon's "A Flick of the Switch--1930-1950".

Gebhard's book may be ordered from:

Superintendent of Documents
US Government Printing Office
Washington, D. C. 20402

$12.00 Order No: 008-050-00189-5

[Reviewed by Harold A. Layer]

THE MUSEUM

A.W.A. HISTORICAL MUSEUM

East Bloomfield, N.Y.
Bruce Kelley, Curator

Museum Hours:

Sunday ——— 2 to 5 P.M.
Wednesday ——— 7 to 9 P.M.
May through October

Open to groups by appointment
Tele. (716) 657-7489

Free Admission

Museum Telephone:
(716) 657-6260

MUSEUM ACCESSIONING

Pictured is an example how new equipment is permanently identified in your museum. Seen is the end section of an early Clapp-Eastham tuner. The identification letters are made in white paint (with a fine brush) and then covered with transparent lacquer to prevent removal.

The "80-67" is the Accession number. The "80" indicates the year acquired (1980) and "67" is the number assigned to the donor (in this case, the Vance Phillip's collection). The #196 is the AWA Museum designation used for identification and IBM inventory

OTB LATE?

AWA cannot guarantee Third Class mail delivery. Further, if you move, 3rd class mail will not be forwarded. If you have these problems, may we suggest you have your Bulletins sent First Class.

NEW EQUIPMENT in A.W.A. Museum

(sets, parts, magazines, books, etc.)

AA1B, W2CR, W2TII, WA2PKS, K2GHD, WB2SPJ, W2GK, WB3LHB, K2AH, W2ZH, W6GH, The Armstrong Foundation, R. Weibezahl,

Planning to visit the Museum this year ? If so, you'll see many new pieces of equipment such as the rare Siphon Recorder used on the Trans-Pacific submarine cable. The cable was laid in 1903 and was known as the longest and slowest in operation. It ran from San Francisco to Shanghai, China... according to Stu Davis, W2ZH the donor.

Several items from the famous Vance Phillips collection will also be on display including an early CRL tuner. As you can see, the Museum Committee is not concentrating on shelves and shelves of broadcast receivers... but a wide variety of communication items. Another example of something different will be the scanning tube used on the early lunar orbiter space-flight.

Lastly, plans are being made to have library facilities where members can refer to the Association's large collection of books, manuals, magazines and catalogs.